ATGGCGGCTGCGCCGTTGAAGCACTGGCGCACCACGCTGGAGCGGTGGAGAAGTTCGTGTCGCCGCTCTAC TTTACCGACTGTAACCTCCGCGGCAGGCTTTTTGGGGCCAGCTGCCCTGTGGCTGTCCTCCAGCTTCCTGACG CCGGAGAGACTTCCCTACCAGGAGGCAGTCCAGCGGGACTTCCGCCCCGCGCAGGTCGGCGACAGCTTCGGACCC TGGGAAAGTGATGGAGAAGGTCTGGTGTGGCGTGATGGAGAACCTGTCCAGGGTTTAACCAAAGAGGGTGAGAAG ACCAGCTATGTCCTGACTGACAGGCTGGGGGAAAGAGACCCCCGAAGCCTCACTCTCTATGTGGAAGTAGCCTGC AATGGGCTCCTGGGGGCCGGGAAGGGAAGCATGATTGCAGCCCCTGACCCTGAGAAGATGTTCCAGCTGAGCCGG GCTGAGCTAGCTGTGTTCCACCGGGATGTCCACATGCTCCTGGTGGATCTGGAGCTGCTGCTGGGCATAGCCAAG GGCCTCGGGAAGGACAACCAGCGCAGCTTCCAGGCCCTGTACACAGCCAATCAGATGGTGAACGTGTGTGACCCT GCCCAGCCCGAGACCTTCCCAGTGGCCCAGGCCCTGCCTCCAGGTTCTTTGGCCAACATGGGGGTGAAAGCCAA CACACCATTCATGCCACAGGGCACTGCCACATTGATACAGCCTGGCTTTGGCCCTTCAAAGAGACTGTGAGGAAA TGTGCCCGGAGCTGGGTGACCGCCCTGCAGCTCATGGAGCGGAACCCTGAGTTCATCTTTGCCTGCTCCCAGGCG CAGCAGCTGGAATGGGTGAAGAGCCGCTACCCTGGCCTGTACTCCCGCATCCAGGAGTTTGCGTGCCGTGGGCAG TTTGTGCCTGTGGGGGGCACCTGGGTGGAGATGGATGGGAACCTGCCCAGTGGAGAGGCCATGGTGAGGCAGTTT TTGCAGGGCCAGAACTTCTTTCTGCAGGAGTTTGGGAAGATGTGCTCTGAGTTCTGGCTGCCGGACACCTTTGGC TACTCAGCACAGCTCCCCCAGATCATGCACGGCTGTGGCATCAGGCGCTTTCTCACCCAGAAATTGAGCTGGAAT TTGGTGAACTCCTTCCCACACCATACATTTTTCTGGGAGGGCCTGGATGGCTCCCGTGTACTGGTCCACTTCCCA CCTGGCGACTCCTATGGGATGCAGGGCAGCGTGGAGGAGGTGCTGAAGACCGTGGCCAACAACCGGGACAAGGGG CTGAAGCGCCTGAGCAATACGGATGGGCTGCCCAGGGTGCAGCTATCTTCTCCAAGACAGCTCTTCTCAGCACTG GAGAGTGACTCAGAGCAGCTGTGCACGTGGGTTGGGGAGCTCTTCTTGGAGCTGCACAATGGCACATACACCACC CATGCCCAGATCAAGAAGGGGAACCGGGAATGTGAGCGGATCCTGCACGACGTGGAGCTGCTCAGTAGCCTGGCC CTGGCCCGCAGTGCCCAGTTCCTATACCCAGCAGCCCAGCTGCAGCACCTCTGGAGGCTCCTTCTTCTGAACCAG TTCCATGATGTGGTGACTGGAAGCTGCATCCAGATGGTGGCAGAGGAAGCCATGTGCCATTATGAAGACATCCGT TCCCATGGCAATACACTGCTCAGCGCTGCAGCCGCAGCCCTGTGTGCTGGGGGAGCCAGGTCCTGAGGGCCTCCTC CTGGTGACAGTGCCCAGCATGGGCTATGCTCCTGTTCCTCCCCCACCTCACTGCAGCCCCTGCTGCCCCAGCAG CCTGTGTTCGTAGTGCAAGAGACTGATGGCTCCGTGACTCTGGACAATGGCATCATCCGAGTGAAGCTGGACCCA ACTGGTCGCCTGACGTCCTTGGTCCTGGTGGCCTCTGGCAGGGGGCCCTTGCTGAGGGCGCCGTGGGGAACCAG TTTGTGCTATTTGATGATGTCCCCTTGTACTGGGATGCATGGGACGTCATGGACTACCACCTGGAGACACGGAAG CCTGTGCTGGGCCAGGCAGGGACCCTGGCAGTGGGCACCGAGGGCCGCCTGCGGGCAGCGCCTGGTTCTTGCTA CAGATCAGCCCCAACAGTCGGCTTAGCCAGGAGGTTGTGCTGGATGTTGGCTGCCCCTATGTCCGCTTCCACACC GAGGTACACTGGCATGAGGCCCACAAGTTCCTGAAGGTGGAGTTCCCTGCTCGCGTGCGGAGTTCCCAGGCCACC TATGAGATCCAGTTTGGGCACCTGCAGCGACCTACCCACTACAATACCTCTTGGGACTGGGCTCGATTTGAGGTG TGGGCCCATCGCTGGATGGATCTGTCAGAACACGGCTTTGGGCTGGCCCTGCTCAACGACTGCAAGTATGGCGCG TCAGTGCGAGGCAGCATCCTCAGCCTCTCGCTCTTGCGGGCGCCCTAAAGCCCCGGACGCTACTGCTGACACGGGG CGCCACGAGTTCACCTATGCACTGATGCCGCACAAGGGCTCTTTCCAGGATGCTGGCGTTATCCAAGCTGCCTAC AGCCTAAACTTCCCCCTGTTGGCTCTGCCAGCCCCAGCCCAGCCCGCCACCTCCTGGAGTGCGTTTTCCGTG CTGTATGAGGCCCACGGCAGCCACGTGGACTGCTGGCTGCACTTGTCGCTGCCGGTTCAGGAGGCCATCCTCTGC GATCTCTTGGAGCGACCAGACCCTGCTGGCCACTTGACCCTTCGGGACAACCGCCTGAAGCTCACCTTTTCTCCC GAAGGCTCTGGGGACTCCTAATTTCTGCTTCCCCAGCCTAAAGCAGGGATCAGTCTTTTCTTGTGGAATAAATCC TTGGATCGGG

MGVVAPPRPMLDRLKRLSNTDGLPRVQLSSPRQLFSALESDSEQLCTWVGELFLELHNGTYTTHAQIKKGNRECE RILHDVELLSSLALARSAQFLYPAAQLQHLWRLLLLNQFHDVVTGSCIQMVAEEAMCHYEDIRSHGNTLLSAAAA ALCAGEPGPEGLLIVNTLPWKRIEVMALPKPGGAHSLALVTVPSMGYAPVPPPTSLQPLLPQQPVFVVQETDGSV TLDNGIIRVKLDPTGRLTSLVLVASGREAIAEGAVGNQFVLFDDVPLYWDAWDVMDYHLETRKPVLGQAGTLAVG TEGGLRGSAWFLLQISPNSRLSQEVVLDVGCPYVRFHTEVHWHEAHKFLKVEFPARVRSSQATYEIQFGHLQRPT HYNTSWDWARFEVWAHRWMDLSEHGFGLALLNDCKYGASVRGSILSLSLLRAPKAPDATADTGRHEFTYALMPHK GSFQDAGVIQAAYSLNFPLLALPAPSPAPATSWSAFSVSSPAVVLETVKQAESSPQRRSLVLRLYEAHGSHVDCW LHLSLPVQEAILCDLLERPDPAGHLTLRDNRLKLTFSPFQVLSLLLVLQPPPH

CGCGAACAACCCTTCTGACGGCCCTCGCTGTGCAGGCCAGGATGCCTCTCCCCCATCCGCCCCCCGCTGCGGAAA GTTAAGTTTGAAGAGGGGGAAGAGGGGAACA<u>TG</u>GACATGAAGAGGAGGATCCACCTGGAGCTGAGGAACTGGAC CCCGTCAGCTGTTCGAGAACTTGTCTTGGACAATTGCAAATCAAATGATGGAAAAATTGAGGGCTTAACAGCTGA ATTTGTGAACTTAGAGTTCCTTAGTTTAATAAATGTAGGCTTGATCTCAGTTTCAAATCTTCCCAAGCTGCCTAA ATTGAAAAGCTTGAACTCAGTGAAAATAGAATCTTTGGAGGTCTGGACATGTTAGCTGAAAAGCTTCCAAATCT CACACGTCTAAACTTAAGTGGAAATAAACTGAAAGATATCAGCACCTTGGAAACCTTTGAAAAAGTTAGAATGTCT AGCTTACCTACATGGATGGCTATGACCAAGAGGACCAGGAGGAACCTGACTCAGATGCTGAGGTGGATGGTGTGG ATGAAGAGTAGGAGGGCGAAGAAGAAGACGAAGAAGACGAGGAGGATGAAGATGGTGAAGAAGAGAGGTTTGATG AAGAAGATGATTAAGACCCCAGATGACCTGCAGAAACAGAACTGTTTAGTATCGGTTGGACTGCTCATGGATTTG ATAGTTCCTGTGACATTCCGTCTTCCTCCATGTAGTCCCTCTTGGTAATCTACCAATCTACCATCGAGCTTAGGG ACTTCACCCCAACAAATTGTAAGTGTTGTTAGGTTTTTGTGTGAGACTCTTGCTGTAGCGTAGATAGCTGTGAT TGGTGAGTCAACCATCTGTGGCTACCAGTTACACTGGGACTGTAACAGCATTTTTACTTTCTGTACAACAAAAAT CTTTGTAAATAAAATCTTAACATT

 ${\tt MDMKRRIHLELRNWTPSAVRELVLDNCKSNDGKIEGLTAEFVNLEFLSLINVGLISVSNLPKLPKLKKLELSENR} \\ {\tt IFGGLDMLAEKLPNLTRLNLSGNKLKDISTLEPLKKLECLKSLDLFNCEVTNMNDY} \\$

GGCGCCCTTACCCCTGCTGGCCCTTGCAAGGCGCGACCGGCGCCATGCAGCCCCGGGGCTGAGGCCGCCCCATG GCAAAGCCGGCGGTCCCGGCGACGACGGCGCATGGAGAACTTCCGTAAGGTGCGCTCCGAAGAGGCGCCAGCGGG GTGCGGGGCCGAGGGAGGCGGCCCGGGCTCCGGCCCCTTCGCAGACCTGGCGCCGGGCGCGGGTGCACATGCGGGT CGTCTTCAGCGGCTGCGGCCGGGCCACCAAAACCGTCACGTGCGCCGAGATCCTCAAGCGCCGCCTGGCGGG CCTGCACCAGGTCACGGGCTGCGCTACCGGAGCGTACGCGAGGTGTGGCAGAGCCTCCCGCCTGGGCCCACGCA GGGTCAGACGCCTGGCGAGCCGGCCGCTAGTCTCAGCGTACTTAAGAACGTGCCCGGCCTCGCCATCCTACTTTC CAAGGACGCGCTGGATCCGCGACAGCCCGGCTACCAGCCCCGAATCCCCATCCTGGTCCCTCGTCCCCGCCAGC CGCGCCAGCGTCCAAGAGGAGCCTAGGGGAACCCGCAGCTGGAGAAGGCTCCGCGAAGCGATCGCAACCCGAGCC AGGGGTTGCGGACGAGGATCAGACGGCCTGAAACTCCGGACTGTGGGCCACCTAGTCCGGCAGGATCTTCCGCCA GCGCCTCCACCTTCAGATGTACCTCCAGCCTTTCACTCCTCGGTCCTCCGGAGCCCACAACCTGGACACAGCTCC TCAAGACAGGTAGCATGGACCTTAAGGCGACAAGAGAGGGGCCCCAGGAGTGGCAGGAGAGAGTCCCCGACCACC $\tt CTAGGGAAACTTCGTGCGATAATTGCTGCTTATGCCCGTGTTGCGTGAAGACACGGAACTTCACCTTTTCTGGGA$ CCTTCTTTGGGGGAGAATGGTGGACAGTGGGATTCTGGAAACTTGTTTGGGACCCCCAAGGGTTAAAGCCACCCA GCATTCACGAAGAGCACCTGAAGTATGGAAGCTGAGAAGAGTTATTGGAATCACCCCCACCGTTGACAGAGGAAG GCAGGGGTGAGAATTAACTGCTTGAGGGTAGGAGAGTCTGAGATGTGGGGGCCCTATTCCGCTCCCCGCCCTGG GACAGTTTTCCTTTCTAGTTTTCTTTCCCCTGCTTCAGAGGAGCATCTCTGAGGGTTCTAGCTCTTTTAACACCC CTTTTCCCCCTGCTGCCCAGAGGGAGACCCAGGACTGAACTCTCCAGGCCTCCCCTGAGCCCTGCAGCTGG CTGGAGTCTTGCTTCCAATAAAACAAGCACA

4617/6881 FIGURE 4257A

CGGCCTGAGAGACGCTGGAGGATGCGGACGCGGAGGCCGCCTGGGGTAGCGGCGGGGGGAGTCCTGGCGCTCTGC AGGTCAGAAGTTGAGTAGCAGGGGCCTAGGAGGGCTCGAAGCCTTCACAGCGATGGCAGAAGAAGCGACCCCTGAG CTCTGTTGGTAACCAGGATCCCTGCACCTACAAGGGGTCCTACTTCTCCTGCCCCATGGCAGGTACTCCTAAGGC GGCAGACAACCTGCTGACCAACTGCCTGTTCTACCGCTCGCCAGCAGAAGGCCCTGAGAAGATGCAGGACTCCAG $\verb|CCCTGTTGAGCTCCTGCCCTTCAGTCCCCAGGCTCACTCCTACCCAGGCCCACCACTGGCAGCACCCAAACCTGT|\\$ CTACCGCAACCCTCTGTGCTATGGGCTCTCAACTTGTCTGGGGGAAGGAGCAGTGAAGAGGCCACTGGATGTTGA ${\tt CCAGACTCTGGATGGCACCTTCTTGCGGGGGGTGCCAGCTGAGGGGTCCAGTAAAGACTCCTCAGGGAGCTTCTC}$ CCCATGCCAGCCCTTCCTGGAGAAATATCAGACCATCCACAGCACGGGCTTCCTGGCCTCCAGGTACACAGGTCC TTACCCTAGGAACTCCAAGCAATGTCTGAGGGGCCCTCAAGTCCTTGGACCCAGCTGGCCCAGCCCCTGGG GCCTTGCCCTCCAGCCTGTCGCCACCCAGAGAAGCAGGGCAGCTACAGCCCAGCACTCCCACTGCAGCCTCTGGG TTACATTCCCCCACTGGGGCTGGACGCTTACCCCTACCCCTCTGCCCCTCTCCCAGCACCCTCTCCAGGCCTCAA GCTGGAGCCGCCTCTCACTCCACGGTGCCCATTGGACTTTGCCCCCCAGACACTGAGTTTTCCTTATGCCCGGGA TGACCTCTCTCTATGGAGCATCCCCTGGGCTTGGAGGGACACCACCTTCCCAGAACAATGTGCGGGCTGTGCC ACAGCCTGGTGCCTTCCAGAGGGCATGCCAGCCTTTGCCAGCGGGCCAGCCCTGCTCAGAGCCTGTGAGGCCTGC ACAGGAAGCCGAAGAGAAGACCTGGCTGCCCAGCTGCAGGAAAGAGAAGCTCCAGCCCCGGCTCAGTGAGCACTC TGGGCCGCCCATCGTCATCCGAGACAGTCCAGTTCCCTGTACCCCCCCAGCACTGCCCCCTGTGCCCGGGAGTG CCAGTCTCTTCCACAGAAGGAGGGCGCAAGGCCACCCAGCTCTCCACCAATGCCTGTCATTGACAATGTCTTCAG CCTGGCCCCCTACCGTGACTATCTGGATGTGCCGGCACCCGAGGCCACAACTGAGCCTGACTCTGCCACAGCTGA CTCAGGGAGTAAACCCCTAAGGGGCTCACTTAAGGAGGAGGTAGCCCTGGATTTGAGTGTGAGGAAGCCCACAGC AGAGGCCTCCCTGTCAAGGCTTCCCGTTCTGTGGAGCATGCCAAGCCTACTGCAGCCATGGATGTCCCAGATGT GGGCAACATGGTGTCAGATCTGCCAGGCCTGAAAAAGATAGACACAGAAGCACCAGGCTTGCCTGGGGTGCCAGT GACCACAGATGCCATGCCAAGGACCAACTTCCACAGCTCTGTGGCCTTCATGTTCCGAAAGTTCAAGATCCTCCG TCCGGCACCTTTGCCTGCAGCCGTGGTCCCGTCCACGCCCACCTCAGCTCCTGCTCCCACACAGCCTGCACCCAC CCCCACATCTGGGCCCATTGGACTGCGGATTCTCGCTCAACAGCCCTTGTCTGTGACCTGCTTCAGCCTGGCACT GCCCAGCCCTCCAGCCGTAGCTGTGGCCTCCCCTGCCCCTGCTCCAGCTCCATCCCCTGCTCCGGCTCGAGCTCA GGCTCCAGCTTCAGCCCGGGATCCAGCTCCAGCTCCAGCTCCAGCTGCAGCCCTGCTCCAGCATCTACTTCAGC CCCAGGGGACTCCCTGGAGCAGCATTTTACAGGACTACATGCGTCCCTGTGTGATGCTATTTCTGGCTCCGTCGC CCACTCTCCTCCAGAGAGCTTCGCGAGTGGCTAGAGACGCTGGGCCCTGGGGCCAGGCTGCGTGGCAGGACTG CCCCCATGTGGTGCGAGCTGGCGCCATCTTCGTGCCCATTCACCTGGTGAAGGAGCGGCTCTTCCCTCGGCTGCC ACCCGCTTCTGTGGACCATGTGCTGCAGGAGCATCGTGTGGAGCTGCCGCCCACCACGCTGTCGGAGGAGCGGGC ACTGCGGGAGCTCGCCCTGCCAGGCTGCACCTCACGCATGCTGAAGTTACTGGCGCTGCGCCAGCTGCCGGACAT TTACCCCGACCTTCTCGGCCTGCAGTGGCGCGACTGTGTACGCCGCCAGCTGGGTGACTTTGACACTGAGGCTGG AGCTGTGTCCTCCTCAGAGCCCACTGTGGCCAGAGGTGAGCCAGAGAGCCTAGCCCTGGCTCAGAAGTCACCGGC CCCCAAGGTCAGGAAGCCAGGAAGCCACCAACCCCTGGCCCGGAGAAAGCAGAGGCAGCTGCTGGGGAAGA GTCCTGTGGTGCCTCCCCTACCCTGCTACCAGTGCCAGCCCACCTGGCCCCACACTGAAGGCCCGCTTCCGCAG TCTGCTGGAGACCGCCTGGCTCAATGGCCTGGCTCTGCCCACCTGGGGCCACAAGTCCTCAAGACCAGACCAGCC CTCACCCTGCCCACAGCTGCTGGACAGCCAGAGCCATCACCTGTAGCACTGGTTGCCAGTGCTGTGTATAGCA GTCACTCTCCACCCTTCCCTTCTGCCTGCCCAGCTGCCCCGGGGCCACGAGTGGATGCTGGGGCTGTGGCTGCTC CCCTGGAGGGTTCCATCTCTGACCCTGTGGCCCATTCAGGGTGGGCTGAAGAGCCCCTGAGCTTTTAACGTGAG GGTCTTTATTGGATAGGACTACTCCCTATTTCTTGCCTAGAGAACACACATGGGCTTTGGAGCCCGACAGACCTG

FIGURE 4257B

MDVPDVGNMVSDLPGLKKIDTEAPGLPGVPVTTDAMPRTNFHSSVAFMFRKFKILRPAPLPAAVVPSTPTSAPAP TQPAPTPTSGPIGLRILAQQPLSVTCFSLALPSPPAVAVASPAPAPAPSPAPARAQAPASARDPAPAPAPVAGPA PASTSAPGDSLEQHFTGLHASLCDAISGSVAHSPPEKLREWLETAGPWGQAAWQDCQGVQGLLAKLLSQLQRFDR THRCPFPHVVRAGAIFVPIHLVKERLFPRLPPASVDHVLQEHRVELRPTTLSEERALRELALPGCTSRMLKLLAL RQLPDIYPDLLGLQWRDCVRRQLGDFDTEAGAVSSSEPTVARGEPESLALAQKSPAPKVRKPGRKPPTPGPEKAE AAAGEESCGASPTPATSASPPGPTLKARFRSLLETAWLNGLALPTWGHKSSRPDQPSPCPQLLDSQSHHL

GTCCTCCCGCGGGTCCGAGGGCGCTGGAAACCCAGCGGCGGCGAAGCGGAGAGGAGCCCCGCGCGTCTCCGCCCG GACCGTCCGGGTCCGCCGGCCACCACCAGCCATGGGCTCTGGCCGCTCTCGCTGCCCCTGGCGCTGTCG CCGCCGCGGCTGCTGCTGCTGCTGCTCTCTCTGCTGCCAGTGGCCAGGGCCTCAGAGGCTGAGCACCGTCTA TTTGAGCGGCTGTTTGAAGATTACAATGAGATCATCCGGCCTGTAGCCAACGTGTCTGACCCAGTCATCATCCAT TTCGAGGTGTCCATGTCTCAGCTGGTGAAGGTGGATGAAGCCAGATCATGGAGACCCAACCTGTGGCTCAAG CAAATCTGGAATGACTACAAGCTGAAGTGGAACCCCTCTGACTATGGTGGGGCAGAGTTCATGCGTGTCCCTGCA CAGAAGATCTGGAAGCCAGACATTGTGCTGTATAACAATGCTGTTGGGGATTTCCAGGTGGACGACAAGACCAAA GCCTTACTCAAGTACACTGGGGAGGTGACTTGGATACCTCCGGCCATCTTTAAGAGCTCCTGTAAAATCGACGTG ACCTACTTCCCGTTTGATTACCAAAACTGTACCATGAAGTTCGGTTCCTGGTCCTACGATAAGGCGAAAATCGAT CTGGTCCTGATCGGCTCTTCCATGAACCTCAAGGACTATTGGGAGAGCGGCGAGTGGGCCATCATCAAAGCCCCA GGCTACAAACACGACATCAAGTACAACTGCTGCGAGGAGATCTACCCCGACATCACATACTCGCTGTACATCCGG TACCTGCCCTCCGACTGCGGTGAGAAGGTGACCCTGTGCATTTCTGTCCTCCTCTCCCTGACGGTGTTTCTCCTG GTGATCACTGAGACCATCCCTTCCACCTCGCTGGTCATCCCCCTGATTGGAGAGTACCTCCTGTTCACCATGATT CCCTCATGGGTGAAGACTGTATTCTTGAACCTGCTCCCCAGGGTCATGTTCATGACCAGGCCAACAAGCAACGAG GGCAACGCTCAGAAGCCGAGGCCCCTCTACGGTGCCGAGCTCTCAAATCTGAATTGCTTCAGCCGCGCAGAGTCC AATTTCAGTGCTAACCTCACGAGAAGCTCTAGTTCTGAATCTGTTGATGCTGTGCTGTCCCTCTCTGCTTTTGTCA CCAGAAATCAAAGAAGCCATCCAAAGTGTCAAGTATATTGCTGAAAATATGAAAGCACAAAATGAAGCCAAAGAG ATTCAAGATGATTGGAAGTATGTTGCCATGGTGATTGATCGTATTTTTCTGTGGGTTTTCACCCTGGTGTGCATT TGGGAGACTTCCTTGTGTCAGGGCAGGAGGAGGCTGCTTCCTAGTAAGAACGTACTTTCTGTTATCAAGCTACCA GTATTTATTACCGATAAATGAACATTTAACTAGCCTTTTTGGTATGGTAAAGAGATGTCAAAATGTGATTCTATG TGATTAGTATGCTATGCAATATACATGTAAAAATGTTTCCTTTTAGTTGTTGAAACAAAACTGGATAGAA AAATGCTGTTCAGAAATATGAAAAGTCATTCAGTTATCACTACAGATCTCCCAGTAATTTTTCTTATTTAGCCCA TAATCTCTTTGAAGGTTTATACTAATTCAGCAATCCCCCATCGTTACCCATTTCTTACCATGCATTTCTCGTTCT TTACTGGGTCTAAAGGGCTATGCCTCCATTTCAGAGAGCTTCAACTACTTCTCTTGCATACTTCTAAATTATACT ATGAGAAATCATGCCTAGTTATTCATTGTTAATATAACTGTCTTAGTACACCATAAACTGGGTGGATTATAAACA ACAGAAACTTCTCAGTTTTGGAGGTTGGGAGGTCCAAGGTCAAGGCACCAGCAAATTTGGTGTCTGGTGAGGGTC CTCTTCCTCAAAGGGTGCCTTCTAGCTGTGTCCTCACATGACTGAAGGGACTAGCTATCTCTGTGGGGTCTATTT TATAAGGGCACTAACCCCATTCATGAGAGCAGAGCCCCCATGGCCTAATCACCTTTCCAAGGCCCCACCTTCTAT CTAAGACAATCACGCTGGGAATAGGTTTCAACATATGAATTGGGGGAGGACACATTTGGACCACAGCATGAACCT TTAGAACAGGGTTTCTCAGCCTTAGCACTACGGACATTTTGGGCTGGATAAATATGTGTTGGTACAGAATGGGGG TATCCTGTGCATTGTAGGATCTTTAGCAGTACCCTAGCCTCAACTCACTAGATGCCAATGACATACCTTGCTTCT TCACCAGTTATGATAACCAAGAATGTCTCCATTGTTAAATGTCCCCTTAGGAGCAAAATTGCCCCTGGTTGAGAA ACATTGCTTTAGACAAATTGTTAAGAGTATCATGTACTACACTTCTGAAACTTAACGTGATCATCACCACTGACA GATGATTCACAGAGAGACTGTTTGAATCTTGTCTCACTAGTTTTTCCTGTGCAAAAATAAAATGGACAGAATT **GCAAAAAAAAAAAAAA**

FIGURE 4260

MGSGPLSLPLALSPPRLLLLLLLSLLPVARASEAEHRLFERLFEDYNEIIRPVANVSDPVIIHFEVSMSQLVKVD EVNQIMETNLWLKQIWNDYKLKWNPSDYGGAEFMRVPAQKIWKPDIVLYNNAVGDFQVDDKTKALLKYTGEVTWI PPAIFKSSCKIDVTYFPFDYQNCTMKFGSWSYDKAKIDLVLIGSSMNLKDYWESGEWAIIKAPGYKHDIKYNCCE EIYPDITYSLYIRRLPLFYTINLIIPCLLISFLTVLVFYLPSDCGEKVTLCISVLLSLTVFLLVITETIPSTSLV IPLIGEYLLFTMIFVTLSIVITVFVLNVHYRTPTTHTMPSWVKTVFLNLLPRVMFMTRPTSNEGNAQKPRPLYGA ELSNLNCFSRAESKGCKEGYPCQDGMCGYCHHRRIKISNFSANLTRSSSSESVDAVLSLSALSPEIKEAIQSVKY IAENMKAQNEAKEIQDDWKYVAMVIDRIFLWVFTLVCILGTAGLFLQPLMAREDA

 $\tt CTCCGTGGACATCTCAGGTCTTCAGGGTCTTCCATCTGGAACTATATAAAGTTCAGAAAAC\underline{\textbf{ATG}} \texttt{TCTCGAAGATA}$ TGACTCCAGGACCACTATATTTTCTCCAGAAGGTCGCTTATACCAAGTTGAATATGCCATGGAAGCTATTGGACA ACCTTGTGAGCAGTTGGTTACAGCGCTGTGTGATATCAAACAAGCTTATACACAATTTGGAGGAAAACGTCCCTT TGGTGTTTCATTGCTGTACATTGGCTGGGATAAGCACTATGGCTTTCAGCTCTATCAGAGTGACCCTAGTGGAAA TTACGGGGGATGGAAGGCCACATGCATTGGAAATAATAGCGCTGCAGCTGTCAATGTTGAAACAAGACTATAA AGAAGGAGAAATGACCTTGAAGTCAGCACTTGCTTTAGCTATCAAAGTACTAAATAAGACCATGGATGTTAGTAA ${\tt ACTCTCTGCTGAAAAAGTGGAAATTGCAACACTAACAAGAGAGAATGGAAAGACAGTAATCAGAGTTCTCAAACA}$ ${\tt ACAGAAAGAAAAGGATAAA} \underline{{\tt TAG}} {\tt ATCAGAGATTTTATTACTCATTTGGGGCACCATTTCAGTGTAAAAGCAGTCC$ TACTCTTCCACACTAGGAAGGCTTTACTTTTTTAACTGGTGCAGTGGGAAAATAGGACATTACATACTGAATTG GGTCCTTGTCATTTCTGTCCAATTGAATACTTTATTGTAACGATGATGGTTACCCTTCATGGACGTCTTAATCTT

MSRRYDSRTTIFSPEGRLYQVEYAMEAIGHAGTCLGILANDGVLLAAERRNIHKLLDEVFFSEKIYKLNEDMACS VAGITSDANVLTNELRLIAQRYLLQYQEPIPCEQLVTALCDIKQAYTQFGGKRPFGVSLLYIGWDKHYGFQLYQS DPSGNYGGWKATCIGNNSAAAVSMLKQDYKEGEMTLKSALALAIKVLNKTMDVSKLSAEKVEIATLTRENGKTVI RVLKQKEVEQLIKKHEEEEAKAEREKKEKEQKEKDK

ATGCTTAACCCCACTGTGTTTTTTTGACATCGCCGTCGATGGCGAGCCCTTGGGCCACGTCTCCTTCGAGCTGCTT
GCAGACAAGTTTCCAAAGACAGCAGAAAACTTTCATGCTCTTGAGCACTGGAGAGAAAGGATTTGAATTATCAGAG
TTTATGTGTCAGGGTGGTGACTTCACATGCCATAATGGCACTGGTGGCAAGTCCATCTATGGGGAGAAATTTGAT
GATGAGAACTTCATCCTAAAGCATACAGTGGTGGATGGCAAGCATGTGGTCTTTGGCAAGGTGAAAGAAGGCATG
AATATTGTGGAGGCCACGGAGCGCTTTGAGTCCAGGAATGGCAAGACCAGGAAGAAGATCACCATTGCTGACTGT
GGACAACTCTAA

 ${\tt MVNPTVFFDIAVDGEPLGHVSFELLADKFPKTAENFHALSTGEKGFELSEFMCQGGDFTCHNGTGGKSIYGEKFD} \\ {\tt DENFILKHTVVDGKHVVFGKVKEGMNIVEATERFESRNGKTRKKITIADCGQL}$

AGTGCGCCGGCCGGCCAACCCTATGCTGGCGTAATCGGGTTCCTCCGAGCCGCCGTAGGACTGGTTCCGGCGG GCTGGTGAGGAATGGAGCCGGTAGGCTGCTGCGGCGAGTGCCGCGGCTCCTCCGTAGACCCGCGGAGCACCTTCG TGTTGAGTAACCTGGCGGAGGTGGTGGAGCGTGTGCTCACCTTCCTGCCCGCCAAGGCGTTGCTGCGGGTGGCCT GCGTGTGCCGCTTATGGAGGGAGTGTGTGCGCAGAGTATTGCGGACCCATCGGAGCGTAACCTGGATCTCCGCAG GCCTGGCGGAGGCCGCCACCTGGAGGGGCATTGCTTGGTTCGCGTGGTAGCAGAGGAGCTTGAGAATGTTCGCA TCTTACCACATACAGTTCTTTACATGGCTGATTCAGAAACTTTCATTAGTCTGGAAGAGTGTCGTGGCCATAAGA GAGCAAGGAAAAGAACTAGTATGGAAACAGCACTTGCCCTTGAGAAGCTATTCCCCAAACAATGCCAAGTCCTTG GGATTGTGACCCCAGGAATTGTAGTGACTCCAATGGGATCAGGTAGCAATCGACCTCAGGAAATAGAAATTGGAG AATCTGGTTTTGCTTTATTATTCCCTCAAATTGAAGGAATAAAAATACAACCCTTTCATTTTATTAAGGATCCAA AGAATTTAACATTAGAAAGACATCAACTCACTGAAGTAGGTCTTTTAGATAACCCTGAACTTCGTGTGGTCCTTG TCTTTGGTTATAATTGCTGTAAGGTGGGAGCCAGTAATTATCTGCAGCAAGTAGTCAGCACTTTCAGTGATATGA ATATCATCTTGGCTGGAGGCCAGGTGGACAACCTGTCATCACTGACTTCTGAAAAGTATGTCTTGTGTGCTTCTG ATTTCGTCTGTGAATGAAGGGAAATGGTCTCAGGTTTTGTCACTTTGGGGTTAACAATTTAAAAAACGTGTTTAA AGAATTATTAAGATAATAGTTCATTCCATTTTGTAGTAGACATTGGCTAAGGGGCTTACTGAACATAATTCTGCT TACGGTTGAATAATTACATTTTTATATATTGTCCTTCAAGAACTTCCTTGAGTCACATTCTCCTTAAAATTTG ACATTGCCTGTTGATCTTTCCTTTGACAGATGTGGTACTCTGTGTGACCTCAATGTGTCACCTCCTTTCTAGTTT CCTCCTTTAAAGGAAACACATGGTTAGAGTGTATCTTTATGGCAAAACTTCTCAGAGCTTCTAATATGCCCGGTG CTGTGGAAATCTGGAAGGAGAATAGCATTACCTGTGACAGTTCCCAAATCTGTTTGGTCACAAAACTTTTTTCCA ${\tt CAGAATGTCTTGCAAGTCGTACTGGTTTTTGGAAATTCTGTATTAGATCTTTTGAAAGGCTTTTTCAAGCTTAAA}$ AATTGTGGATCTTTTTTGTTACTAAGGCTTTTGCTTTCAAAGATAAAAATATTTGCTCTTC

MEPVGCCGECRGSSVDPRSTFVLSNLAEVVERVLTFLPAKALLRVACVCRLWRECVRRVLRTHRSVTWISAGLAE AGHLEGHCLVRVVAEELENVRILPHTVLYMADSETFISLEECRGHKRARKRTSMETALALEKLFPKQCQVLGIVT PGIVVTPMGSGSNRPQEIEIGESGFALLFPQIEGIKIQPFHFIKDPKNLTLERHQLTEVGLLDNPELRVVLVFGY NCCKVGASNYLQQVVSTFSDMNIILAGGQVDNLSSLTSEKYVLCASDFVCE

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ATGTTCCGAGCGGCGCTCCGGGGCAGCTCCGGCGGCCGCCTCATTGCTACGATTTCAGAGTACCCTGGTAATA GCTGAGCATGCAAATGATTCCCTAGCACCCATTACTTTAAATACCATTACTGCAGCCACACGCCTTGGAGGTGAA GTGTCCTGCTTAGTAGCTGGAACCAAATGTGACAAGGTGGCACAAGATCTCTGTAAAGTAGCAGGCATAGCAAAA ${\tt GTTCTGGTGGCTCAGCATGATGTGTACAAAGGCCTACTTCCAGAGGAACTGACACCATTGATTTTGGCAACTCAG}$ AAGCAGTTCAATTACACACACATCTGTGCTGGAGCATCTGCCTTCGGAAAGAACCTTTTGCCCAGAGTAGCAGCC AAACTTGAGGTTGCCCCGATTTCTGACATCATTGCAATCAAGTCACCTGACACATTTGTGAGAACTATTTATGCA GGAAATGCTCTATGTACAGTGAAGTGTGATGAGAAAGTGAAAGTGTTTTCTGTCCGTGGAACATCCTTTGATGCT GCAGCAACAAGTGGCGGTAGTGCCAGTTCAGAAAAGGCATCAAGTACTTCACCAGTGGAAATATCAGAGTGGCTT GACCAGAAATTAACAAAAAGTGATCGACCAGAGCTAACAGGTGCCAAAGTGGTGGTATCTGGTGGTCGAGGCTTG AAGAGTGGAGAGACTTTAAGTTGTTATATGACTTGGCAGATCAACTACATGCTGCAGTTGGTGCTTCCCGTGCT GCTGTTGATGCTGGCTTTGTTCCCAATGACATGCAAGTTGGACAGACGGGAAAAATAGTAGCACCAGAACTTTAT ATTGCTGTTGGAATATCTGGAGCCATCCAACATTTAGCTGGGATGAAAGACAGCAAGACAATTGTGGCAATTAAT ATGACTGAGATATTGAAGAAAAAATGAATCAGGATCATGCCTTAAAAAGAAAACTTTTGTTAAAGTATTCCACTG AAATCACAGATATTTGTGGGTATTATAACAATCATTGGAAAGCATGGAGAGCTACATTTCATAATTTGAGGGAAA ATTTCTAACAGATGCCAGAATGCTTGTTTATGGGATTGCTGTGTTTCCTTTTAATTATTTGTGGTTCCAAACAAT TATTGTTTGAACTTTTTAATTCTGTACTAAAATCTATAATAAAGCTTTTCCACAGCTTTAAAACT

MFRAAAPGQLRRAASLLRFQSTLVIAEHANDSLAPITLNTITAATRLGGEVSCLVAGTKCDKVAQDLCKVAGIAK VLVAQHDVYKGLLPEELTPLILATQKQFNYTHICAGASAFGKNLLPRVAAKLEVAPISDIIAIKSPDTFVRTIYA GNALCTVKCDEKVKVFSVRGTSFDAAATSGGSASSEKASSTSPVEISEWLDQKLTKSDRPELTGAKVVVSGGRGL KSGENFKLLYDLADQLHAAVGASRAAVDAGFVPNDMQVGQTGKIVAPELYIAVGISGAIQHLAGMKDSKTIVAIN KDPEAPIFQVADYGIVADLFKVVPEMTEILKKK

GCACTACCCGCTGGGCGAGCGCCGCGACCACCTACGACCGCGAGGCGCTGCTGGGCGTCCAGGAAGATGTGGATGA ATATGTTAAACTCGGCCACGAAGAGCAGCAAAAAAGACTGCAGGCGATCATAAAGAAAATCGACTTGGACTXCAG ATGGCTTTCTCACTGAAAGTGAACTCAGTTCATGGATTCAGATGTCTTTTAAGCATTATGCTATGCAAGAAGCAA AACAACAGTTTGTTGAATATGATAAAAACAGTGATGATACTGTGACTTGGGATGAATATAACATTCAGATGTATG ATCGTGTGATTGACTTTGATGAGAACACTGCTCTGGATGATGCAGAAGAGGGGGTCCTTTAGGAAGCTTCACTTAA AGGACAAGAAGCGATTTGAAAAAGCTAACCAGGATTCAGGTCCCGGTTTGAGTCTTGAAGAATTTATTGCTTTTG AGCATCCTGAAGAAGTTGATTATATGACGGAATTTGTCATTCAAGAAGCTTTAGAAGAACATGACAAAAAATGGTG ATGGATTTGTTAGTTTGGAAGAATTTCTTGGTGATTACAGGTGGGATCCAACTGCAAATGAAGATCCAGAATGGA TACTTGTTGAGAAAGACAGATTCGTGAATGATTATGACAAAGATAACGATGGCAGGCTTGATCCCCAAGAGCTGT TACCTTGGGTAGTACCTAATAATCAGGGCATTGCACAAGAGGGGGCGCTTCATCTAATTGATGAAATGGATTTGA ATGGTGACAAAAAGCTCTCTGAAGAAGAGATTCTGGAAAACCCGGACTTGTTTCTCACCAGTGAAGCCACAGATT ATGGCAGACAGCTCCATGATGACTATTTCTATCATGATGAGCTTTAATCTCTGAGCCTGTCTCAGTAGAGTACTG GCTCCTTTTATAATTTGTTACCAGCTTTACTTTTGTGATAAAATATTGATGTTGTATTTTACACTCTTAAGTCTT ATTTCAAAATGTATTGAAGCAACAAAATATTAATATTGTGCCATATGACAACAAAGTCTTTCCTAAATACTCCAT CTGTTTAGTACTGTATTGTGGAATATTTGAGTTCTATTTCCATACTTGAAAACATGGAGGATTTTAGAGATGCCT GAACAATATTATTTAAGTAGTATGTGACCGAGCTATAAATTTTTGTTTTTGTTCTAAGTAGATTTAATTTGGGAA CTGACAGGACAATGTTTTTAGGTTTAGCATTTTGTTTAAAAACCTTTAAAGAAACCTTTAGAAGGACTTAGACCT CACATATTAATGTTGAGAAGTTCTGCTTAATTTTAAAATGGTTTCTATAAAGGGTTTTATTGTATGAAATAGAAC TTTATATTTTTGCATATGTATAGATAGTAATTATATTTAATGTATAACTATAGCATTATGGTGAGTGGAATTTGA CATTGTCCAAACCTTTTTCATTTTTGAGTGATTAAAAATGAAATGTCCTTTGTA

GAGCCCGTCTTCCGACGTGCAGCCTGGCAGTGCAGTGAGCTGTCTGGCCTTTTGTCCTTGATCCTTGGTTAAGGA $\mathtt{A}\underline{\mathtt{ATG}}\mathtt{ACCAACCAGTACGGTATTCTCTTCAAACAAGAGCCAAGCCCATGATGATGCCATTTGGTCAGTTGCTTGGGGG$ GACGAACAAGAAGGAAAACTCTGAGACAGTGGTCACAGGCTCCCTAGATGACCTGGTGAAGGTCTGGAAATGGCG TGATGAGAGGCTGGACCTACAGTGGAGTCTGGAGGGACATCAGCTGGGAGTGGTGTCTGTGGACATCAGCCACAC CCTGCCCATTGCTGCATCCAGCTCTTTGATGCTCATATTCGTCTTTTGGGACTTGGAAAATGGCAAACAGATAAA GTCCATAGATGCAGGACCTGTGGATGCCTGGACTTTGGCCTTTTCTCCTGATTCCCAGTATCTGGCCACAGGAAC TCATGTCGGGAAAGTGAACATTTTTGGTGTGGAAAAGTGGGAAAAAGGAATATTCTTTGGACACGAGAGAAAATT CATTCTTAGTATTGCATATAGTCCTGATGGGAAATACCTAGCCAGTGGAGCCATAGATGGAATCATCAATATTTT TGATATTGCAACTGGAAAACTTCTGCATACCCTGGAAGGCCATGCCCATTCGCTCCTTGACCTTTTCCCC GGACTCCCAGCTCCTTGTCACTGCTTCAGATGATGGCTACATCAAGATCTATGATGTACAACATGCCAATTTGGC TTCGTCTGACAAAAGTGTAAAAGTTTGGGATGTTGGAACGAGGACTTGTGTTCACACCTTCTTTGATCACCAGGA TCAGGTCTGGGGAGTAAAATACAATGGAAATGGTTCAAAAATTGTGTCTGTTGGAGATGACCAGGAAATTCACAT TCCTTACCTTCTTAGGCTTGTTTAAAAGAAATATAGCATTTATTGTAGCAAAGACTTAAATTTTGTAGATACAAT AAAAA

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4632/6881 FIGURE 4271

MTNQYGILFKQEQAHDDAIWSVÄWGTNKKENSETVVTGSLDDLVKVWKWRDERLDLQWSLEGHQLGVVSVDISHT LPIAASSSLDAHIRLWDLENGKQIKSIDAGPVDAWTLAFSPDSQYLATGTHVGKVNIFGVESGKKEYSLDTRGKF ILSIAYSPDGKYLASGAIDGIINIFDIATGKLLHTLEGHAMPIRSLTFSPDSQLLVTASDDGYIKIYDVQHANLA GTLSGHASWVLNVAFCPDDTHFVSSSSDKSVKVWDVGTRTCVHTFFDHQDQVWGVKYNGNGSKIVSVGDDQEIHI YDCPI

GTGCAGGGACTTCACAGCCCACACGGGCTACGAGGTGCTGCAGCGGCTTCTGGATGGCAGGAAGATGTGCAA AGACATGGAGGAGCTACTGAGGCAGAGGGCCCAGGCGGAGGAGCGGTACGGGAAGGAGCTGGTGCAGATCGCACG GAAGGCAGGTGGCCAGACGGAGATCAACTCCCTGAGGGCCTCCTTTGACTCCTTGAAGCAGCAAATGGAGAATGT GGGCAGCTCACACATCCAGCTGGCCCTGACCCTGCGTGAGGAGCTGCGGAGTCTCGAGGAGTTTCGTGAGAGGCA GAAGGAGCAGAGGAAGAAGTATGAGGCCGTCATGGACCGGGTCCAGAAGAGCAAGCTGTCGCTCTACAAGAAGGC CATGGAGTCCAAGAAGACATACGAGCAGAAGTGCCGGGACGCGGACGACGCGGAGCAGGCCTTCGAGCGCATTAG CGCCAACGGCCACCAGAAGCAGGTGGAGAAGAGTCAGAACAAAGCCAGGCAGTGCAAGGACTCGGCCACCGAGGC AGAGCGGGTATACAGGCAGAGCATTGCGCAGCTGGAGAAGGTCCGGGCTGAGTGGGAGCAGCAGCACCAC CTGTGAGGCCTTTCAGCTGCAAGAGTTTGACCGGCTGACCATTCTCCGCAACGCCCTGTGGGTGCACAGCAACCA GCTCTCCATGCAGTGTGTCAAGGATGATGAGCTCTACGAGGAAGTGCGGCTGACGCTGGAAGGCTGCAGCATAGA CGCCGACATCGACAGTTTCATCCAGGCCAAGAGCACGGGCACAGAGCCCCCCGCTCCGGTGCCCTACCAGAACTA TTACGATCGGGAGGTCACCCCGCTGACCAGCAGCCCTGGCATACAGCCGTCCTGCGGCATGATAAAGAGGTTCTC TGGACTGCTGCACGGAAGTCCCAAGACCACTTCGTTGGCAGCTTCTGCTGCGTCCACAGAGACCCTGACCCCCAC CCCCGAGCGGAATGAGGGTGTCTACACAGCCATCGCAGTGCAGGAGATACAGGGAAACCCGGCCTCACCAGCCCA GGAGTACCGGGCGCTCTACGATTATACAGCGCAGAACCCAGATGAGCTGGACCTGTCCGCGGGAGACATCCTGGA GGTGATCCTGGAAGGGGAGGATGGCTGGTGGACTGTGGAGAGGAACGGGCAGCGTGGCTTCGTCCCTGGTTCCTA ACTGTCCCCACCTTGCTAGGGCCCAGAACCAAGCGTCCCCCAGCCCCGAGAGGGAGCCTGTCGTCTCCCAGGGAA TAAAGGAGTGCGTTCTGTT

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4634/6881 FIGURE 4273

GTTGCCAGGGAGCGGCGGGAGCCCTGAGGGGACTGCGGCGCTGCGCGGAGGAGCGAGGCGCTTGCTGGGGTC GGGGCTGCGCGACGGCGCAGGGGCTGCGGGGAGCGCCGCGCAGGCCGTGCAGTTCCTAGCGAGGAGGCGCCGCCG GTGCGGCATCACCTCCTACAAGACCGTGCTGGTCTTTCTCAACCTCATCTTCTGGGGGGCAGCTGGCATTTTATG CTATGTGGGAGCCTATGTCTTCATCACTTATGATGACTATGACCACTTCTTTGAAGATGTGTACACGCTCATCCC TGCTGTAGTGATCATAGCTGTAGGAGCCCTGCTTTTCATCATTGGGCTAATTGGCTGCTGTGCCACAATCCGGGA AAGTCGCTGTGGACTTGCCACGTTTGTCATCATCCTGCTCTTGGTTTTTGTCACAGAAGTTGTTGTAGTGGTTTT GGGATATGTTTACAGAGCAAAGGTGGAAAATGAGGTTGATCGCAGCATTCAGAAAGTGTATAAGACCTACAATGG AACCAACCCTGATGCTGCTAGCCGGGCTATTGATTATGTACAGAGACAGCTGCATTGTTGTGGAATTCACAACTA CTCAGACTGGGAAAATACAGATTGGTTCAAAGAAACCAAAAACCAGAGTGTCCCTCTTAGCTGCTGCAGAGAGAC TGCCAGCAATTGTAATGGCAGCCTGGCCCACCCTTCCGACCTCTATGCTGAGGGGTGTGAGGCTCTAGTTGTGAA GAAGCTACAAGAAATCATGATGCATGTGATCTGGGCCGCACTGGCCATTTGCAGCTATTCAGCTGCTGGGCATGCT GTGTGCTTGCATCGTGTTGTGCAGAAGGAGTAGAGATCCTGCTTACGAGCTCCTCATCACTGGCGGAACCTATGC ATAGTTGACAACTCAAGCCTGAGCTTTTTGGTCTTGTTCTGATTTGGAAGGTGAATTGAGCAGGTCTGCTGCTGT TGGCCTCTGGAGTTCATTTAGTTAAAGCACATGTACACTGGTGTTGGACAGAGCAGCTTGGCTTTTCATGTGCCC ACCTACTACCTACCTCCGCACTTTCTTTTTCCTTGTTCTAGCTGACTCTTCATGCCCCTAAGATTTTAAGTA CGATGGTGAACGTTCTAATTTCAGAACCAATTGCGAGTCATGTAGTGTGGTAGAATTAAAGGAGGACACGAGCCT GCTTCTGTTACCTCCAAGTGGTAACAGGACTGATGCCGAAATGTCACCAGGTCCTTTCAGTCTTCACAGTGGAGA ACTCTTGGCCAAAGGTTTTTGGGGGGAGGAGGAGGAGCATCTTCTGGTTAAGGTTAACACCAGATGGTGCCC CTCATTGGTGTCCTTTTAAAAAATATTTACTGTAGTCCAATAAGATAGCAGCTGTACAAAATGACTAAAAATAGAT TGTAGGATCATATGGCGTATATCTTGGTTCATCTTCAAAATCAGAGACTGAGCTTTGAAACTAGTGGTTTTTAAT CAAAGTTGGCTTTATAGGAGGAGTATAATGTATGCACTACTGTTTTAAAAGAATTAGTGTGAGTGTTTTTTGTA TGAATGAGCCCATTCATGGTAAGTCTTAAGCTTGTTGGAAATAATGTACCCATGTAGACTAGCAAAATAGTATGT AGATGTGATCTCAGTTGTAAATAGAAAAATCTAATTCAATAAACTCTGTATCAGCCCCCAACATATTATTTTTCA

MGQCGITSSKTVLVFLNLIFWGAAGILCYVGAYVFITYDDYDHFFEDVYTLIPAVVIIAVGALLFIIGLIGCCAT IRESRCGLATFVIILLLVFVTEVVVVVLGYVYRAKVENEVDRSIQKVYKTYNGTNPDAASRAIDYVQRQLHCCGI HNYSDWENTDWFKETKNQSVPLSCCRETASNCNGSLAHPSDLYAEGCEALVVKKLQEIMMHVIWAALAFAAIQLL GMLCACIVLCRRSRDPAYELLITGGTYA

MKTILSNQTVDIPENVDITLKGRTVIVKGPRGTLRRDFNHINVELSLLGKKKKRLRVDKWWGNRKELATVRTICS HVQNMIKGVTLGFRYKMRSVYAHFPINVVIQENGSLVEIRNFLGEKYIRRVRMRPGVACSVSQAQKDELILEGND IELVSNSAALIQQATTVKNKDIRKFLDGIYVSEKGTVQQADE

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4638/6881 FIGURE 4277

CTCGAGACGGGACCGAGAGCATCATGGGCAGCACTGTCCCGCGCTCCGCTGCTGCTTCTGCTGCTGCTCC TGCGCCGGGCCGAGCAGCCCTGCGGGGCCGAGCTCACCTTCGAGCTGCCGGACAACGCCAAGCAGTGCTTCCACG ${\tt AGGAGGTGGAGCAGGGCGTGAAGTTCTCCCTGGATTACCAGGTCATCACTGGAGGCCACTACGATGTTGACTGCT}$ ATGTAGAGGACCCCCAGGGGAACACCATCTACAGAGAAACGAAGAAGCAGTACGACAGCTTCACGTACCGGGCTG ${\tt AAGTCAAGGGCGTTTATCAGTTTTGCTTCAGTAATGAGTTTTCCACCTTCTCACAAGACCGTCTACTTTGACT}$ TTCAAGTGGGCGATGAGCCTCCCATTCTCCCAGACATGGGGAACAGGGTCACAGCTCTCACCCAGATGGAGTCCG ${\tt CCTGCGTGACCATCCATGAGGCTCTGAAAACGGTGATTGACTCCCAGACGCATTACCGGCTGCGGGAGGCCCAGG}$ ACCGGGCCCGAGCGGAAGACCTTAATAGCCGAGTCTCTTACTGGTCTGTTGGCGAGACGATTGCCCTGTTCGTGG TCAGCTTCAGTCAGGTGCTACTGTTGAAAAGCTTCTTCACAGAAAAACGACCCATCAGCAGGGCAGTCCACTCCT GGGTCGCGTAGCCCAGGGTGGAGGCAGAACGATGCTGCTGTGGTAGCCCTTTGCCTTTCATGCCCATGCTTGATT CTTGCACCTCAGCAGCTGAAGGTCTCAGAGACCAGTAATCAGAAGGCATCCGACTGCATTAAGTGTGCAGCGCTG AAAAGACATTTACAACTAGGCCAGGGATTAGCCACTGTGGGAGGGTGGACAGGCAATGGTTCAGTGGCCTGGCTG $\tt TTGGCAGGAACTCCAAGTGCCCAGGCCTCTTGGGCAGCTTAGGGCCCTGCCTCTGTTTCATGATGCATGGGTCAT$ $\tt TTGTCTTGGGTGTCCTATCCCATATGGAGAAGAAAGGGGCTCTAAGTTCTGGCTCTTCTTTGGGGGTTCTCT$ GTACCTGAGGAAACCAGGCCCTGGGTGACTTTGCAGATCTGCTCACCCTCGGTGAGCAACAGTGTCAGCCATGCA AAAAAAA

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GCGCAAGAGCCAAGCCGCCAGCGCTGCGATGTGGGCCACGCTGCCGCTGCTCTGCGCCGGGGCCTGGCTCCTGGG AGTCCCCGTCTGCGGTGCCGCCGAACTGTGCGTGAACTCCTTAGAGAAGTTTCACTTCAAGTCATGGATGTCTAA GCACCGTAAGACCTACAGTACGGAGGAGTACCACCACAGGCTGCAGACGTTTGCCAGCAACTGGAGGAAGATAAA $\tt CGCCCACAACAATGGGAACCACATTTAAAATGGCACTGAACCAATTTTCAGACATGAGCTTTGCTGAAATAAA$ ACACAAGTATCTCTGGTCAGAGCCTCAGAATTGCTCAGCCACCAAAAGTAACTACCTTCGAGGTACTGGTCCCTA CCCACCTTCCGTGGACTGGCGGAAAAAGGAAATTTTGTCTCACCTGTGAAAAATCAGGGTGCCTGCGGCAGTTG CTGGACTTTCTCCACCACTGGGGCCCTGGAGTCTGCGATCGCCATCGCAACCGGAAAGATGCTGTCCTTGGCGGA GTATATCCTGTACAACAAGGGGATCATGGGTGAAGACACCTACCCCTACCAGGGCAAGGATGGTTATTGCAAGTT GGCTGTGGCCCTCTACAACCCTGTGAGCTTTGCCTTTGAGGTGACTCAGGACTTCATGATGTATAGAACCGGCAT $\tt CTACTCCAGTACTTCCTGCCATAAAACTCCAGATAAAGTAAACCATGCAGTACTGGCTGTTGGGTATGGAGAAAA$ AAATGGGATCCCTTACTGGATCGTGAAAAACTCTTGGGGTCCCCAGTGGGGAATGAACGGGTACTTCCTCATCGA GCGCGGAAAGAACATGTGTGGCCTGGCTGCCTGCGCCTCCTACCCCATCCCTCTGGTGTGAGCCGTGGCAGCCGC GGGAGATCCACTGGGACCCCCAACATTCTGCCCTCACCTCTGTGCCCAGCCTGGAAACCTACAGACAAGGAGGAG TTCCACCATGAGCTCACCCGTGTCTATGACGCAAAGATCACCAGCCATGTGCCTTAGTGTCCTTCTTAACAGACT CAAACCACATGGACCACGAATATTCTTTCTGTCCAGAAGGGCTACTTTCCACATATAGAGCTCCAGGGACTGTCT TTTCTGTATTCGCTGTTCAATAAACATTGAGTGAGCACCTCC

FIGURE 4279

AGGTTGCCATAAAGGACAAACAAGTGAAATACTTCATACATTACAGTGGTTGGAATAAAAATTGGGATGAATGGG TTCCGGAGAGCAGAGTACTCAAATACGTGGACACCAATTTGCAGAAACAGCGAGAACTTCAAAAAAGCCAATCAGG AGCAGTATGCAGAGGGGAAGATGAGAGGGGCTGCCCCAGGAAAGAAGACATCTGGTCTGCAACAGAAAAATGTTG AAGTGAAAACGAAAAAGAACAAAACAGAAAACACCTGGAAATGGAGATGGTGGCAGTACCAGTGAGACCCCTCAGC $\tt CTCCTCGGAAGAAAAGGGCCCGGGTAGATCCTACTGTTGAAAATGAGGAAACATTCATGAACAGAGTTGAAGTTA$ AAGTAAAGATTCCTGAAGAGCTAAAACCGTGGCTTGTTGATGACTGGGACTTAATTACCAGGCAAAAACAGCTCT TTTATCTTCCTGCCAAGAAGAATGTGGATTCCATTCTTGAGGATTATGCAAATTACAAGAAATCTCGTGGAAACA CAGATAATAAGGAGTATGCGGTTAATGAAGTTGTGGCAGGGATAAAAGAATACTTCAACGTAATGTTGGGTACCC AGCTACTCTATAAATTTGAGAGACCACAGTATGCTGAAATTCTTGCAGATCATCCCGATGCACCCATGTCCCAGG TGTATGGAGCGCCACATCTCCTGAGATTATTTGTACGAATTGGAGCAATGTTGGCTTATACACCTCTGGATGAGA AGAGCCTTGCTTATTACTCAATTATCTTCACGATTTCCTAAAGTACCTGGCAAAGAATTCTGCAACTTTGTTCA $\tt GTGCCAGCGATTATGAAGTGGCTCCTCCTGAGTACCATCGGAAAGCTGTG\underline{TGA}\underline{GAGGCACTCTCACTCACTTATG}$ TTTGGATCTCCGTAAACACATTTTTGTTCTTAGTCTATCTCTTGTACAAACGATGTGCTTTGAAGATGTTAGTGT ATAACAATTGATGTTTGTTTTCTGTTTGATTTTAAACAGAGAAAAAATAAAAGGGGGGTAATAGCTCCTTTTTTCT GTGTTTTATTGCCTAGTTGACAAAGCTGCTTTTGAATGCTGGTGGTTCTATTCCTTTGACACTACGCACTTTTAT AATACATGTTAATGCTATATGACAAAATGCTCTGATTCCTAGTGCCAAAGGTTCAATTCAGTGTATATAACTGAA TGTTGTTACTTAGGCATTTTATCTTGGCTCAAATTGTTGAAGAATGGTGGCTTGTTTCATGGTTTTTGTATTTGT GTCTAATGCACGTTTTAACATGATAGACGCAATGCATTGTGTAGCTAGTTTTCTGGAAAAGTCAATCTTTTAGGA ATTGTTTTCAGATCTTCAATAAATTTTTTCTTTAAATTTC

 $\label{thm:continuous} $$ \text{MarkQdpkpkfqegervlcfhgpllyeakcvkvaikdkqvkyfihysgwnknwdewvpesrvlkyvdtnlqkqre} $$ \text{LQKanqeqyaegkmrgaapgkktsglqqknvevktkknkqktpgngdggstsetpqpprkkrarvdptveneetf} $$ \text{Mnrvevkvkipeelkpwlvddwdlitrqkqlfylpakknvdsiledyanykksrgntdnkeyavnevvagikeyf} $$ \text{Nvmlgtqllykferpqyaeiladhpdapmsqvygaphllrlfvrigamlaytpldekslalllnylhdflkylak} $$ \text{Nsatlfsasdyevappeyhrkav} $$$

CTTTCTTTGCTGCGTCTACTGCGAGAATGAAGACTATTCTCAGCAATCAGACTGTCGACATTCCAGAAAATGTCG
ACATTACTCTGAAGGGACGCACAGTTATCGTGAAGGGCCCCAGAGGAACCCTGCGGAGGACTTCAATCACATCA
ATGTAGAACTCAGCCTTCTTGGAAAGAAAAAAAAGAGGCTCCGGGTTGACAAATGGTGGGGTAACAGAAAGGAAC
TGGCTACCGTTCGGACTATTTGTAGTCATGTACAGAACATGATCAAGGGTGTTACACTGGGCTTCCGTTACAAGA
TGAGGTCTGTGTATGCTCACTTCCCCATCAACGTTGTTATCCAGGAGAATGGGTCTCTTGTTGAAATCCGAAATT
TCTTGGGTGAAAAATACATCCGCAGGGTTCGGATGAGACCAGGTGTTGCTTGTTCAGTATCTCAAGCCCAGAAAG
ATGAATTAATCCTTGAAGGAAATGACATTGAGCTTGTTTCAAATTCAGCGGCTTTGATTCAGCAAGCCACAACAG
TTAAAAACAAGGATATCAGGAAATTTTTGGATGGTATCTATGTCTCTGAAAAAGAAGATGCCAGATGACACT

MGRVRTKTVKKAARVIIEKYYTRLGNDFHTNKRVCEEIAIIPSKKLRNKIAGYVTHLMKRIQRGPVRGISIKLQE EERERRDNYVPEVSALDQEIIEVDPDTKEMLKLLDFGSLSNLQVTQPTVGMNFKTPRGPV

CAGTGGCAGCATGGAACCTGCATTTCATAGAGGAGATCTTCTCTTTCTAACAAATCGAGTTGAAGATCCCATACG
AGTGGGAGAAATTGTTGTTTTTAGGATAGAAGGAGAGAGAGTTCCTATAGTTCACCGAGTCTTGAAGATTCATGA
AAAGCAAAATGGGCATATCAAGTTTTTGACCAAAGGAGATAATAATGCGGTTGATGACCGAGGCCTCTATAAACA
AGGACAACATTGGCTAGAGAAAAAAGATGTTGTGGGGGAGAGCCAGGGGATTTGTTCCTTATATTGGAATTGTACC
GATCCTCATGAATGACTATCCTAAATTTAAGTATGCAGTTCTCTTTTTGCTGGGTTTATTCGTGCTGGTTCATCG
TGAGTAAGAAGCCTGCCTTGCTGTTCCTGGGAAGATGCCATAGTTTTCGTTACTGGATGTTTGGAGTAGATACTG
GTCTGTGATTGGTGGAATGGAGAACACACGTGTTGGTGCTTCTGGGTAGCACTGGTTTGCATTAGTTTATTTTC
CATGCCAGAGTTTGTGTGGGCGGGCGCATGTGCACCACAGAGTGCACTCGAGGGGACTTTCAGTCACAGGATTTC
ATAATTGTCATTGTCACACTTTCAAATTTTTGTACATCAGTGAATTTTTTTATATTAAAAGGTTGAGCCAAAAGCC
CCCAGTGTTTGTATTTTGAAGCCAAGCTTCACTTCTAAAGTGCCTACAGAGACTTGTAAATGAAAATGCAGCTCT
GCACGAGTTTGAAACCGTCATACCTCCTTCTATTAGGAATGGCATATACTGAGGTGGTCGTAAGTCTTAACTTCT
AAAATTTTAAATAAAAGACTTTGCACATTG

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FIGURE 4286

TGTGGGTGGAGGCACGTTGGGGATCCTGGTGCAGAGTGGGCCAGCTGTGGCCTCGGGGCTCGCCACCGTGGAGGA GAGCCGCGCTTGTGAAGACGCAGTGCCCAGTTAGTTTGCGCCAGCCTCTGAGTTCAGCTCAGAACACAGATGATC TCATTGATTCCTCACGTCAACCTTGGGAAATCTGGGTACCCTGGGACGTCCACACATGAGGACCGAGGCTCAGGG ACATCAAGGGACTGGCCTGGTCCCAGAAACAGGGAGTAAAATGGGAAGTAAACTCAGTCCCACGTCTGCCTGACT CCAGAGTTTGGGCCACTGAACCATGCGGCTGCCATCTTGGAGTTCTTTGAGCTGTGAAGTGCTGTGCATCGTGTG ATTCTGTGTCCCTTTTGTGCAGGTACCAGGATTTCTATGCATTCGACCTGTCAGGAGCCACTCGAGTCCTTGAAT GGATTGATGACAAAGGAGTCTTTGTTGCTGGCTATGAAAAGCCTGAAAAAGAATGAAATTCTTCATCTGAAATTAC CTCTCAGACTTTCTGTAAAGGAAAACAAGGGCTTATTCCCAGAAAGAGATTTCAAAGTGCGCCATGGAGGATTTT CAGACAGGTCTATCTTTGATCTAAAGCATGTGCCACATACCAGATTGCTGGTTACCAGTGGCCTTCCAGGTTGTT TGTGACTCATACACCCCTGTCCCCTAATCTGAGCCAGTTAAGAAGGAGACTCAGGCTGGGGACAGTCTCATGCCT GTAATTGTAGCACTTTGGGAGGCTGAGCTGGGTGGATCACTTGAATTCAGGAGTTGAAGACCACCTTGTACAACA TGGTGAAACCTGTCTCTATTAAAAATACAAAAAATTAGCCGGGCATGGTGGTAGGCACCTGTAATCCCTGCTACT GGGGAGACTGAGCCAGGAGAATTGCTTGAACCTGGGAGGCGGAGGTTACAGTGAGCCGAGATCATGCCACTGCAC TAATCTACTTTAATGC

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4648/6881 FIGURE 4287

 ${\tt CCGGAAGAGACACGCGGGGCTTCAGGCTGCCCCATTGGAAGATTACTCCCCAGGCTTCCCTTGCCCCAAGCA}$ GTGAGCTGACTGGAATGGTACCCCGGGAGGCCCCTGAGTCTGCTCAGTGCCCTGTGCCCTTCCCTCACCATCCCAA ATGCCAAGGATGTGCTTCGGAAGAGGCACAAGAGAAGGAGCCGACAGCACCAGCGGTTCATGGCCCGGAAGGCCT TGCTGCAGGAGCAGGGGCTGCTGAGCATGCCTCCAGAACCAGGGTCCTCCCCACTGCCCACCCCTTTCGGGGCAG CGACAGCAACTGAAGCTGCCAGCAGTGGGAAGCAGTGTCTGAGGGCTGGATCTGGCAGTGCCCCATGCAGCAGAA GGCCTGCTCCCGGGAAAGCCTCAGGGCCCTTGCCCAGCAAGTGTGTGGCTATCGACTGTGAGATGGTGGGCACGG GACCCCGAGGGCGGGTAAGCGAGCTGGCCCGCTGTTCCATTGTGAGCTACCATGGCAATGTCCTCTATGACAAGT ACAACGACTTCCAGGCGCTCAAGTATGTCCACCCTCGGAGCCAGACCCGGGATACGACCTATGTCCCAAACTTCC TCAGCGAGCCCGGCCTCCACACCCGGGCCCGGGTCTCTCTAAAGGACCTGGCCCTGCAGCTGCTGCACAAGAAGA TCCAGGTGGGCCAGCACGGCACTCATCAGTAGAAGATGCCACGACAGCCATGGAGCTCTACCGGCTGGTGGAGG TGCAGTGGGAACAGCAGGAGGCCCGCAGCCTCTGGACCTGCCCCGAGGACAGAACCTGACAGCACAGACA TGGAACAGTACATGGAGGACCATCCACCCAGTACTGGGCTCTTAAGCAAAAGTCTGAGAAACAAGACAGTGGTTT $\tt CCCCCGAACCTGGTCTGATGCCCCTCAGCTCTTTGACAATCACTGTGGCTGTTGGGTTTTCTCCTATTTCTAAA$ CATCTGTAAAGTGGGGATAGTGGTACGGCCTACCTCATAGGGTTGTAATGAGCACTAAATGTGAAGTGCTTGGCA TTTATTCTTTGAGAATTTGTTGTAACTTCTTCAGGATAACACCTGAGTCCACAGGCTGAGCAGCTGTGGCCCAGA CAGAACTGCTCCGGCTTGGCTGTTCCAGCAGGTGGGGCGCTGGCCTCGGTGAGGGCACAGCAAGGTTCACGG ATATCCGTGTGTCTTGTCTGTGGCCACCAGGCACAGGTTTGGCTTCCGGTCAGTGTCCCGACACTGTGCGGGAGG TGACAACAGAGCAAAGCAGCGCAGGGGTCAGGGAGGTACAGACACTGCTGAAATCACACTACCCCACCCTCAGCT GGAAGGGGCTAACTGAATCTTTTACCACTTCTGGCCTGGCTCCAGAACTTTGTTCTAGATTCCTTAAAAGTCGGT AGCGGGGAAATGTACTATTTAAGATCAGCTTTGTTGTAAAACCATTTGTTCTAGAATAAAACTCAATTGGAAACG TG

MVPREAPESAQCLCPSLTIPNAKDVLRKRHKRRSRQHQRFMARKALLQEQGLLSMPPEPGSSPLPTPFGAATATE AASSGKQCLRAGSGSAPCSRRPAPGKASGPLPSKCVAIDCEMVGTGPRGRVSELARCSIVSYHGNVLYDKYIRPE MPIADYRTRWSGITRQHMRKAVPFQVAQKEILKLLKGKVVVGHALHNDFQALKYVHPRSQTRDTTYVPNFLSEPG LHTRARVSLKDLALQLLHKKIQVGQHGHSSVEDATTAMELYRLVEVQWEQQEARSLWTCPEDREPDSSTDMEQYM EDQYWPDDLAHGSRGGAREAQDRRN

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AGTCCCGGAACTGCTAGAACGAACCATTCGCATATGGAGGGGGTGACCCACCATCTCAGAACATTAAAAAAGGGA AAGAATCCCCTGGTGAACTACAGTGAAAGTCTTATTGAGCATTTAAATGGAAATAAAAATATTCAGTGGACCTAA TGAAGAGTAGATGACTTTCCCTTCTGTCCCCTCCCGACAGGCACTCATGGTACCGGCGCGGCGCAGCTGTGAC ${\tt TGTCGCTGCAGACGGAAACTGACTGGGGTCAATTCAAGTC} \underline{{\tt ATG}} {\tt CAGGCTGTGAGAAACGCGGGGTCGCGGTTCCT}$ TCGACAGCTCCAAGACGCTGCGGCCAAGCAGAAAGTTGAACAGAACGCGGCTCCCAGCCACCAAGTTCAGCAT CATTAAAGCATCCCACAACAACACACAGATCCAGGTAGTCTCTGCTAGTAATGAGCCCCTTGCCTTTGCTTCCTG GAGAGCTAAACAAAAGGGCGTGATCCACATCCGAGTTGTGGTGAAAGGCCTGGGGCCAGGACGCTTGTCTGCCAT GCACGGACTGATCATGGGCGGCCTGGAAGTGATCTCAATCACAGACACCCCCAATCCCACACACGGCTGCCG ${\tt CCCCAGGAAGGCTCGGAAGCTG}{\tt TGA}{\tt TGGGAAGGAGGCCTGCACTTGGACCTCAAGCCTCAGCTCCAGTGG}$ GACCTTGTAAAATGCTCCCTGTCAGAGCTCTCCAGAATATGCTTGTTGGAGATCCTTCAGGCAGTAAGGGAGAGT TTTGCCTCCTTACACAGTGGCCTTTGCTTGCACCTCCAGCTGGAGATGGGTGTGCCCCAGAAGTAAGCTTTGCAT CCACCTGTCAA

 $\label{thm:model} \begin{tabular}{l} MQAVRNAGSRFLRSWTWPQTAGRVVARTPAGTICTGARQLQDAAAKQKVEQNAAPSHTKFSIYPPIPGEESSLRW\\ AGKKFEEIPIAHIKASHNNTQIQVVSASNEPLAFASCGTEGFRNAKKGTGIAAQTAGIAAAARAKQKGVIHIRVV\\ VKGLGPGRLSAMHGLIMGGLEVISITDNTPIPHNGCRPRKARKL\\ \end{tabular}$

FIGURE 4292

TAATTTTTGCCCAGTCTGCCTGTTGTGGGGGCTCCTCCCCTTTGGGGATATAAGCCCGGCCTGGGGCTGCTCCGTT CTCTGCCTGGCCTGAGGCTCCCTGAGCCGCCTCCCCACCATCACCATGGCCAAGGGCTTCTATATTTCCAAGTCC CTGGGCATCCTGGGGATCCTCCTGGGCGTGGCAGCCGTGTGCACAATCATCGCACTGTCAGTGGTGTACTCCCAG GAGAAGAACAAGAACGCCAACAGCTCCCCGTGGCCTCCACCACCCCGTCCGCCTCAGCCACCACCAACCCCGCC TCGGCCACCACCTTGGACCAAAGTAAAGCGTGGAATCGTTACCGCCTCCCCAACACGCTGAAACCCGATTCCTAC TTCACCTGCAAGGAGGCCACTGACGTCATCATCATCCACAGCAAGAAGCTCAACTACACCCTCAGCCAGGGCACA GGGTGGTCCTGCGTGTGTGGGAGGCTCCCAGCCCCCGACATTGACAAGACTGAGCTGGTGGAGCCCACCGAGT ACCTGGTGGTGCACCTCAAGGGCTCCCTGGTGAAGGACAGCCAGTATGAGATGGACAGCGAGTTCGAGGGGGAGT TGGCAGATGACCTGGCGGGCTTCTACCGCAGCGAGTACATGGAGGGCAATGTCAGAAAGGTGGTGGCCACTACAC AGATGCAGGCTGCAGATGCCCGGAAGTCCTTCCCATGCTTCGATGAGCCGGCCATGAAGGCCGAGTTCAACATCA CGCTTATCCACCCCAAGGACCTGACAGCCCTGTCCAACATGCTTCCCAAAGGTCCCAGCACCCCACTTCCAGAAG ACCCCAACTGGAATGTCACTGAGTTCCACACCACGCCCAAGATGTCCACGTACTTGCTGGCCTTCATTGTCAGTG AGTTCGACTACGTGGAGAAGCAGGCATCCAATGGTGTCTTGATCCGGATCTGGGCCCGGCCCAGTGCCATTGCGG CGGGCCACGGCGATTATGCCCTGAACGTGACGGGCCCCATCCTTAACTTCTTTGCTGGTCATTATGACACACCCT ACCCACTCCCAAAATCAGACCAGATTGGCCTGCCAGACTTCAACGCCGGCGCCCATGGAGAACTGGGGACTGGTGA CCTACCGGGAGAACTCCCTGCTGTTCGACCCCCTGTCCTCCTCCAGCAGCAACAAGGAGCGGGTGGTCACTGTGA AGGGCTTCGCCTCCTACGTGGAGTACCTGGGTGCTGACTATGCGGAGCCCACCTGGAACTTGAAAGACCTCATGG TGCTGAATGATGTGTACCGCGTGATGGCAGTGGATGCACTGGCCTCCTCCCACCCGCTGTCCACACCCGCCTCGG AGATCAACACGCCGGCCCAGATCAGTGAGCTGTTTGACGCCATCTCCTACAGCAAGGGCGCCTCAGTCCTCAGGA TGCGGGACATCATGAACCGCTGGACCCTGCAGATGGGCTTCCCGGTCATCACGGTGGATACCAGCACGGGGACCC TTTCCCAGGAGCACTTCCTCCTTGACCCCGATTCCAATGTTACCCGCCCCTCAGAATTCAATGGATTGTGCCCAT CACATCCATCAGAGATGGCAGACAGCAGGACTACTGGCTGATAGATGTAAGAGCCCAGAACGATCTCTTCAG CACATCAGGCAATGAGTGGGTCCTGCTGAACCTCAATGTGACGGGCTATTACCGGGTGAACTACGACGAAGAGAA CTGGAGGAAGATTCAGACTCAGCTGCAGAGAGACCACTCGGCCATCCCTGTCATCAATCGGGCACAGATCATTAA TGACGCCTTCAACCTGGCCAGTGCCCATAAGGTCCCTGTCACTCTGGCGCTGAACAACACCCTCTTCCTGATTGA AGAGAGACAGTACATGCCCTGGGAGGCCGCCCTGAGCAGCCTGAGCTACTTCAAGCTCATGTTTGACCGCTCCGA CAACTGGAGGGAGATCCCAGAAAACCTGATGGACCAGTACAGCGAGGTTAATGCCATCAGCACCGCCTGCTCCAA CCACCCAACCTGCGGTCCACCGTCTACTGCAACGCTATCGCCCAGGGCGGGAGGAGGAGTGGGACTTCGCCTG GGAGCAGTTCCGAAATGCCACACTGGTCAATGAGGCTGACAAGCTCCGGGCAGCCCTGGCCTGCAGCAAAGAGTT GTGGATCCTGAACAGGTACCTGAGCTACACCCTGAACCCGGACTTAATCCGGAAGCAGGACGCCACCTCTACCAT CATCAGCATTACCAACAACGTCATTGGGCAAGGTCTGGTCTGGGACTTTGTCCAGAGCAACTGGAAGAAGCTTTT TAACGATTATGGTGGTGGCTCGTTCTCCTTCTCCAACCTCATCCAGGCAGTGACACGACGATTCTCCACCGAGTA TGAGCTGCAGCAGCTGGAGCAGTTCAAGAAGGACAACGAGGAAACAGGCTTCGGCTCAGGCACCCGGGCCCTGGA GCAAGCCCTGGAGAAGACGAAAGCCAACATCAAGTGGGTGAAGGAGAACAAGGAGGTGGTGCTCCAGTGGTTCAC AGAAAACAGCAAATAGTCCCCAGCCCTTGAAGTCACCCGGCCCCCATGCAAGGTGCCCACATGTGTCCATCCCAG CGGCTGGTGCAGGCCTCCATTCCTGGAGCCCGAGGCACCAGTGTCCTCCCCTCAAGGACAAAGTCTCCAGCCCA CGTTCTCTCTGCCTGTGAGCCAGTCTAGTTCCTGATGACCCAGGCTGCCTGAGCACCTCCCAGCCCCTGCCCCTC ATGCCAACCCCGCCTAGGCCTGGCATGGCACCTGTCGCCCAGTGCCCTGGGGCTGATCTCAGGGAAGCCCAGCT CCAGGGCCAGATGAGCAGAAGCTCTCGATGGACAATGAACGGCCTTGCTGGGGGCCGCCCTGTACCCTCTTTCAC CTTTCCCTAAAGACCCTAAATCTGAGGAATCAACAGGGCAGCAGATCTGTATATTTTTTTCTAAGAGAAAATGTA **AATAAAGGATTTCTAGATG**

CGCCGGCGGCCCTGACAGCCCCCACCTCGCAAGAGCATCCGCGGCGCCACTATGCCGACAAAAGGATCAAGGTGG ${\tt CGAAGCCCGTGGTGGAGATGGATGAGATGACCCGTATTATCTGGCAGTTCATCAAGGAGAAGCTCATCCC}$ TGCCCCACGTGGACATCCAGCTAAAGTATTTTGACCTCGGGCTCCCAAACCGTGACCAGACTGATGACCAGGTCA CCATTGACTCTGCACTGGCCACCCAGAAGTACAGTGTGGCTGTCAAGTGTGCCACCATCACCCCTGATGAGGCCC GTGTGGAAGAGTTCAAGCTGAAGAAGATGTGGAAAAGTCCCAATGGAACTATCCGGAACATCCTGGGGGGGACTG GGCACGCCCATGGCGACCAGTACAAGGCCACAGACTTTGTGGCAGACCGGGCCGGCACTTTCAAAATGGTCTTCA $\tt CCCCAAAAGATGGCAGTGGTCAAGGAGTGGGAAGTGTACAACTTTCCCGCAGGCGGCGTGGGCATGGGCATGT$ ${\tt ACAACACCGACGAGTCCATCTCAGGTTTTGCGCACAGCTGCTTCCAGTATGCCATCCAGAAGAAATGGCCGCTGT}$ ACATGAGCACCAAGAACACCATACTGAAAGCCTACGATGGGCGTTTCAAGGACATCTTCCAGGAGATCTTTGACA ${\tt AGCACTATAAGACCGACTTCGACAAGAATAAGATCTGGTATGAGCACCGGCTCATTGATGACATGGTGGCTCAGG}$ TCCTCAAGTCTTCGGGTGGCTTTGTGTGGGCCTGCAAGAACTATGACGGAGATGTGCAGTCAGACATCCTGGCCC AGGGCTTTGGCTCCTTGGCCTGATGACGTCCGTCCTGGTCTGCCCTGATGGGAAGACGATTGAGGCTGAGGCCG TCTTTGCCTGGACACGTGGCCTGGAGCACCGGGGGAAGCTGGATGGGAACCAAGACCTCATCAGGTTTGCCCAGA TGCTGGAGAAGGTGTGCGTGGAGACGGTGGAGACTGGAGCCATGACCAAGGACCTGGCGGGCTGCATTCACGGCC TCAGCAATGTGAAGCTGAACGAGCACTTCCTGAACACCATGGACTTCCTCGACACCATCAAGAGCAACCTGGACA TCCTGAGCGCGGCAGAGGGTGAGCCTCACAGCCCCTCTCTGGAGGCCTTTCTAGGGGATGTTTTTTATAAGCCA GATGTTTTTAAAAGCATATGTGTGTTTCCCCTCATGGTGACGTGAGGCAGGAGCAGTGCGTTTTACCTCAGCCAG TCAGTATGTTTTGCATACTGTAATTTATATTGCCCTTGGAACACATGGTGCCATATTTAGCTACTAAAAAGCTCT TCACAAAAAAAAAACGGATTCCGCG

PCT/US2003/028547

4655/6881 FIGURE 4294

MAGYLRVVRSLCRASGSRPAWAPAALTAPTSQEHPRRHYADKRIKVAKPVVEMDGDEMTRIIWQFIKEKLILPHV DIQLKYFDLGLPNRDQTDDQVTIDSALATQKYSVAVKCATITPDEARVEEFKLKKMWKSPNGTIRNILGGTVFRE PIICKNIPRLVPGWTKPITIGRHAHGDQYKATDFVADRAGTFKMVFTPKDGSGVKEWEVYNFPAGGVGMGMYNTD ESISGFAHSCFQYAIQKKWPLYMSTKNTILKAYDGRFKDIFQEIFDKHYKTDFDKNKIWYEHRLIDDMVAQVLKS SGGFVWACKNYDGDVQSDILAQGFGSLGLMTSVLVCPDGKTIEAEAAHGTVTRHYREHQKGRPTSTNPIASIFAW TRGLEHRGKLDGNQDLIRFAQMLEKVCVETVESGAMTKDLAGCIHGLSNVKLNEHFLNTMDFLDTIKSNLDRALG RO

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AGAACCCCGCGGGGTCTGAGCAGCCCAGCGTGCCCATTCCAGCGCCCGCGTCCCCGCAGCATGCCGCGCCCCCGC CCCTGCCACAACGGTGGTTTATGCGAGGAGATTTCCCAAGAAGTGCGAGGAGATGTCTTCCCCTCGTACACCTGC ACGTGCCTTAAGGGCTACGCGGGCAACCACTGTGAGACGAAATGTGTCGAGCCACTGGGCCTGGAGAATGGGAAC ATTGCCAACTCACAGATCGCCGCCTCGTCTGTGCGTGTGACCTTCTTGGGTTTGCAGCATTGGGTCCCGGAGCTG GCCCGCCTGAACCGCGCAGGCATGGTCAATGCCTGGACACCCAGCAGCAATGACGATAACCCCTGGATCCAGGTG AACCTGCTGCGGAGGATGTGGGTAACAGGTGTGGTGACGCAGGGTGCCAGCCGCTTGGCCAGTCATGAGTACCTG AAGGCCTTCAAGGTGGCCTACAGCCTTAATGGACACGAATTCGATTTCATCCATGATGTTAATAAAAAACACAAG GAGTTTGTGGGTAACTGGAACAAAAACGCGGTGCATGTCAACCTGTTTGAGACCCCTGTGGAGGCTCAGTACGTG AGATTGTACCCCACGAGCTGCCACACGGCCTGCACTCTGCGCTTTGAGCTACTGGGCTGTGAGCTGAACGGATGC GCCAATCCCCTGGGCCTGAAGAATAACAGCATCCCTGACAAGCAGATCACGGCCTCCAGCAGCTACAAGACCTGG GGCTTGCATCTCTTCAGCTGGAACCCCTCCTATGCACGGCTGGACAAGCAGGGCAACTTCAACGCCTGGGTTGCG GGGAGCTACGGTAACGATCAGTGGCTGCAGGTGGACCTGGGCTCCTCGAAGGAGGTGACAGGCATCATCACCCAG GGGGCCCGTAACTTTGGCTCTGTCCAGTTTGTGGCATCCTACAAGGTTGCCTACAGTAATGACAGTGCGAACTGG ACTGAGTACCAGGACCCCAGGACTGGCAGCAGTAAGATCTTCCCTGGCAACTGGGACAACCACTCCCACAAGAAG CGCCTGGAGCTGCTGGGCTGTTAGTGGCCACCTGCCACCCCAGGTCTTCCTGCTTTCCATGGGCCCGCTGCCTC TTGGCTTCTCAGCCCCTTTAAATCACCATAGGGCTGGGGACTGGGGAAGGGGAGGGTGTTCAGAGGCAGCACCAC CACACAGTCACCCCTCCCTCCCTCTTTCCCACCCTCCACCTCTCACGGGCCCTGCCCCAGCCCCTAAGCCCCGTC CCCTAACCCCCAGTCCTCACTGTCCTGTTTTCTTAGGCACTGAGGGATCTGAGTAGGTCTGGGATGGACAGGAAA TAGCCCCTCTCTCACACATCACATTCCCATGGTGGCCTCAAGAAAGGCCCGGAAGCGCCAGGCTGGAGATAACAG CCTCTTGCCCGTCGGCCCTGCGTCGGCCCTGGGGTACCATGTGGCCACAACTGCTGTGGCCCCCTGTCCCCAAGA CACTTCCCCTTGTCTCCCTGGTTGCCTCTTTGCCCCTTGTCCTGAAGCCCAGCGACACAGAAGGGGGTGGGGCG GGTCTATGGGGAGAAAGGGAGCCGAGGTCAGAGGAGGGCATGGGTTGGCAGGGTGGGCGTTTGGGGCCCTCTATGC TGGCTTTTCACCCCAGAGGACACAGGCAGCTTCCAAAATATATTTATCTTCTTCACGGG

GGCCGCGCTCCCAGAGAGCCAGCCCCGGCCGCCGCCGGGGAAGTGCCGCCTGGTGGGGTCACGGCGCCTGAA GCCCACGTGCGCCGCCGAGCCCGAGGTGGCCTCGAGCGCGGCGGCTGACAGCACAGCCCGCCTGAGCTGCCTCCC CGCCCTCCCGCTCCGAGGGCCGCCGCCAGGCCATGCCCAAGAAGGCGGCGGCGGCGGCGAACCAGCAGAAGGGAC TTTCCTGGCAGCCCGGCGACGAGGAGCGCGGACAGTGAGTTTGCTCTGCCCCGGTTCATGGTTCCTGCAAGCCCT CTAGGAGGCCGAAAGCTGCAGCCCCTCCCCTTGCCCCGAAGAGCCTTCCGCGTTCTCTCGCCCTCGGGCCCACCC CGCGCCGCCGGCCCCCCCGCGCCCAGCCCAGTGCCCTCTGCCCGCGGCGGTGGATGGCATGATGGTGCGGGGA AGCGGGCTCCCCAGCGGCATGCCAGTGCCCCCGGGCGCGATGGCTAGCGGCAGCGCCGGGAAGCCCACTGGCGA GGCGGCTTCTCCGGCTCCTGCGAGCGCCATCGGCGGGGCCAGCTCGCAGCCGCGGAAGAGGCTGGTATCCGTCTG CGAGGGCCCCGCCTCCTCTGGTGCCGGCGCCGAGTCCTTCGAGCAGTGCCGGGACACCATCATCGCGCGCACCAA GGGGCTCTCCATCCTCACCCACGACGTGCAGAGCCAGCTCAACATGGGCCGCTTCGGGGAGGCGGGGGACAGCCT GGTGGAGCTGGGCGACCTGGTGGTGTCGCTGACCGAGTGCTCGGCCCACGCGGCCTATCTGGCCGCTGTGGCCAC GCCGGCCCCAGCCCGCGCAGCCGGCCTGGTGGACCGCTACCGCGTGACGCGATGCCGCCACGAGGTGGAGCA GGGTTGCGCCGTGCTGCCGCCACGCCGCTGGCCGACATGACGCCGCAGCTGCTGGAGGTGTCGCAGGGCCT GTCGCGCAACCTCAAGTTCCTGACGGACGCGTGCGCCCTGGCCAGTGACAAGTCACGGGACCGCTTTTCGCGGGA AGGCTTCGCCACCGAGCCGCAGTTCCTGGGTCGCGCGGCAGCTGTGAGCGCCGAGGGCAAGGCGGTGCAGACCGC CATCCTGGGCGGCGCCATGAGCGTGTTCGGCCTGCGTGCTCCTGACCCAGTGCCTCAGGGATCTGGCGCAGCA CCCCGACGGGGGCGCCAAGATGTCGGACCACAGGGAGAGGCTGAGGAACTCGGCCTGCGCCGTGTCTGAAGGCTG CACCCTGCTATCTCAGGCTTTAAGGGAGAGGTCTTCGCCCAGGACTTTACCGCCAGTGAATTCCAATTCTGTGAA TATACCAAAGAATCATAGGTGAAACCCCCTACCCTCCCCAACGTTAAATGCTCGAGAGGAATCTTCCACAAGGC AGGGCCATGCACGCACCTGCACACGCACTTGGAGGGCCCAGGTGTCTCTCCACCAGCCCCCATGCAGTAGGGAC TGGAAGATATGTCATCTGCTGGTTGTTATCACTCCCACCCCTACCCCAGCCCGTCTTCCGGAATTTCTCAAC CGTGTTGAATTAGGAGTATACTTGGTGAGGAAAGAGTATGAATTTGCCATGTGATTTGCAAATGGGGGGAAGCTA GTACTGGAGTATTTATTCATCTATTAAAATGTTATGTTTCTCAGAAAAAAACCTCGTGGCGAATTCTTGGCCTC GAGGGCCAAAT

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MASGSAGKPTGEAASPAPASAIGGASSQPRKRLVSVCDHCKGKMQLVADLLLLSSEARPVLFEGPASSGAGAESF EQCRDTIIARTKGLSILTHDVQSQLNMGRFGEAGDSLVELGDLVVSLTECSAHAAYLAAVATPGAQPAQPGLVDR YRVTRCRHEVEQGCAVLRATPLADMTPQLLLEVSQGLSRNLKFLTDACALASDKSRDRFSREQFKLGVKCMSTSA SALLACVREVKVAPSELARSRCALFSGPLVQAVSALVGFATEPQFLGRAAAVSAEGKAVQTAILGGAMSVVSACV LLTQCLRDLAQHPDGGAKMSDHRERLRNSACAVSEGCTLLSQALRERSSPRTLPPVNSNSVN

4659/6881 FIGURE 4298A

GAGCTAGCGCTCAAGCAGAGCCCAGCGCGGTGCTATCGGACAGAGCCTGGCGAGCGCAAGCGGCGCGGGGAGCCA GCGGGGCTGAGCGCCAGGGTCTGAACCCAGATTTCCCAGACTAGCTACCACTCCGCTTGCCCACGCCCCGGG AGCTCGCGGCGCCTGGCGGTCAGCGACCAGACGTCCGGGGCCGCTGCGCTCCTGGCCCGCGAGGCGTGACACTGT TGCTGACCATCAGCTGGCTCACTCTGACCTGCTTCCCTGGGGCCACATCCACAGTGGCTGCTGGGTGCCCTGACC AGAGCCCTGAGTTGCAACCCTGGAACCCTGGCCATGACCAAGACCACCATGTGCATATCGGCCAGGGCAAGACAC ACGAGCCGATTGTTTTGCGAACCCGGCACATCCTGATTGACAACGGAGGAGAGCTGCATGCTGGGAGTGCCCTCT GCCCTTTCCAGGGCAATTTCACCATCATTTTGTATGGAAGGGCTGATGAAGGTATTCAGCCGGATCCTTACTATG GTCTGAAGTACATTGGGGTTGGTAAAGGAGGCGCTCTTGAGTTGCATGGACAGAAAAAGCTCTCCTGGACATTTC TTATTGTTCATGTCATCGACCCCAAATCAGGCACAGTCATCCATTCTGACCGGTTTGACACCTATAGATCCAAGA AAGAGAGTGAACGTCTGGTCCAGTATTTGAACGCGGTGCCCGATGGCAGGATCCTTTCTGTTGCAGTGAATGATG AAGGTTCTCGAAATCTGGATGACATGGCCAGGAAGGCGATGACCAAATTGGGAAGCAAACACTTCCTGCACCTTG GATTTAGACACCCTTGGAGTTTTCTAACTGTGAAAGGAAATCCATCATCTTCAGTGGAAGACCATATTGAATATC GTGGGGAAAATTTCAGACCTCTGGAAAGCTCACCCAGGAAAAATATGCAATCGTCCCATTGATATACAGGCCA ACCGGGGCAGAGCCTGCCGGAGCTACCGTGTACGGTTCCTCTGTGGGAAGCCTGTGAGGCCCAAACTCACAGTCA CCATTGACACCAATGTGAACAGCACCATTCTGAACTTGGAGGATAATGTACAGTCATGGAAACCTGGAGATACCC TGGTCATTGCCAGTACTGATTACTCCATGTACCAGGCAGAAGAGTTCCAGGTGCTTCCCTGCAGATCCTGCGCCC CCAACCAGGTCAAAGTGGCAGGGAAACCAATGTACCTGCACATCGGGGAGGAGATAGACGGCGTGGACATGCGGG CGGAGGTTGGGCTTCTGAGCCGGAACATCATAGTGATGGGGGGAGATGGAGGACAAATGCTACCCCTACAGAAACC ACATCTGCAATTTCTTTGACTTCGATACCTTTGGGGGCCCACATCAAGTTTGCTCTGGGATTTAAGGCAGCACACT TGGAGGGCACGGAGCTGAAGCATATGGGACAGCAGCTGGTGGGTCAGTACCCGATTCACTTCCACCTGGCCGGTG GCGTCACAGTCCATGGCTCCAATGGCTTGTTGATCAAGGACGTTGTGGGCCTATAACTCTTTGGGCCACTGCTTCT TCACGGAAGATGGGCCGGAGGAACGCAACACTTTTGACCACTGTCTTGGCCTCCTTGTCAAGTCTGGAACCCTCC TCCCCTCGGACCGTGACAGCAAGATGTGCAAGATGATCACAGAGGACTCCTACCCGGGGTACATCCCCAAGCCCA GGCAAGACTGCAATGCTGTGCCACCTTCTGGATGGCCAATCCCAACAACAACCTCATCAACTGTGCCGCTGCAG GATCTGAGGAAACTGGATTTTGGTTTATTTTTCACCACGTACCAACGGGCCCCTCCGTGGGAATGTACTCCCCAG GTTATTCAGAGCACATTCCACTGGGAAAATTCTATAACAACCGAGCACATTCCAACTACCGGGCTGGCATGATCA TAGACAACGGAGTCAAAACCACCGAGGCCTCTGCCAAGGACAAGCGGCCGTTCCTCTAATCATCTCTGCCAGAT ACAGCCCTCACCAGGACGCCGACCCGCTGAAGCCCCGGGAGCCGGCCATCATCAGACACTTCATTGCCTACAAGA ACCAGGACCACGGGGCCTGGCTGCGGGGGGGATGTGTGGCTGGACAGCTGCCGGTTTGCTGACAATGGCATTG TTGGCGAGAGTGGCAACGTGGGGACGGAAATGATGGACAATAGGATCTGGGGCCCTGGCGGCTTGGACCATAGCG GAAGGACCCTCCCTATAGGCCAGAATTTTCCAATTAGAGGAATTCAGTTATATGATGGCCCCATCAACATCCAAA ACTGCACTTTCCGAAAGTTTGTGGCCCTGGAGGGCCGGCACACCAGCGCCCTGGCCTTCCGCCTGAATAATGCCT GGCAGAGCTGCCCCCATAACAACGTGACCGGCATTGCCTTTGAGGACGTTCCGATTACTTCCAGAGTGTTCTTCG TTCCCGACTGGAGAGGGGCCATTTGCAGTGGGTGCTATGCACAGATGTACATTCAAGCCTACAAGACCAGTAACC TGCGAATGAAGATCATCAAGAATGACTTCCCCAGCCACCCTCTTTACCTGGAGGGGGGCGCTCACCAGGAGCACCC ATTACCAGCAATACCAACCGGTTGTCACCCTGCAGAAGGGCTACACCATCCACTGGGACCAGACGGCCCCCGCCG AACTCGCCATCTGGCTCATCAACTTCAACAAGGGCGACTGGATCCGAGTGGGGCTCTGCTACCCGCGAGGCACCA CATTCTCCATCCTCTGGGATGTTCACAATCGCCTGCTGAAGCAAACGTCCAAGACGGGCGTCTTCGTGAGGACCT

4660/6881 FIGURE 4298B

TGCAGATGGACAAAGTGGAGCAGAGCTACCCTGGCAGGAGCCACTACTACTGGGACGAGGACTCAGGGCTGTTGT TCCTGAAGCTGAAAGCTCAGAACGAGAGAGAGAGTTTGCTTCTGCTCCATGAAAGGCTGTGAGAGGATAAAGA TTAAAGCTCTGATTCCAAAGAACGCAGGCGTCAGTGACTGCACAGCCACAGCTTACCCCAAGTTCACCGAGAGGG AGATGGAGAGTTCCAAGCAGCACTTCTTCCACCTCTGGAACGACTTCGCTTACATTGAAGTGGATGGGAAGAAGT ACCCCAGTTCGGAGGATGGCATCCAGGTGGTGGTGATTGACGGGAACCAAGGGCGCGTGGTGAGCCACACGAGCT TCAGGAACTCCATTCTGCAAGGCATACCATGGCAGCTTTTCAACTATGTGGCGACCATCCCTGACAATTCCATAG TGCTTATGGCATCAAAGGGAAGATACGTCTCCAGAGGCCCATGGACCAGAGTGCTGGAAAAGCTTGGGGCAGACA GGGGTCTCAAGTTGAAAGAGCAAATGGCATTCGTTGGCTTCAAAGGCAGCTTCCGGCCCATCTGGGTGACACTGG ACACTGAGGATCACAAAGCCAAAATCTTCCAAGTTGTGCCCATCCCTGTGGTGAAGAAGAAGAAGTTG<u>TGA</u>GGAC AGCTGCCGCCCGGTGCCACCTCGTGGTAGACTATGACGGTGACTCTTGGCAGCAGACCAGTGGGGGATGGCTGGG TCCCCCAGCCCTGCCAGCAGCTGCCTGGGAAGGCCGTGTTTCAGCCCTGATGGGCCAAGGGAAGGCTATCAGAG ACCCTGGTGCTGCCACCTGCCCCTACTCAAGTGTCTACCTGGAGCCCCTGGGGCGGTGCTGGCCAATGCTGGAAA CATTCACTTTCCTGCAGCCTCTTGGGTGCTTCTCTCTCTATCTGTGCCTCTTCAGTGGGGGGTTTGGGGACCATATC AGGAGACCTGGGTTGTGCTGACAGCAAAGATCCACTTTGGCAGGAGCCCTGACCCAGCTAGGAGGTAGTCTGGAG GGCTGGTCATTCACAGATCCCCATGGTCTTCAGCAGACAAGTGAGGGTGGTAAATGTAGGAGAAAGAGCCTTGGC CTTAAGGAAATCTTTACTCCTGTAAGCAAGAGCCAACCTCACAGGATTAGGAGCTGGGGTAGAACTGGCTATCCT TGGGGAAGAGCCAAGCCCTGCCTCTGGCCGTGTCCACCTTTCAGGAGACTTTGAGTGGCAGGTTTGGACTTGGAC TAGATGACTCTCAAAGGCCCTTTTAGTTCTGAGATTCCAGAAATCTGCTGCATTTCACATGGTACCTGGAACCCA ACAGTTCATGGATATCCACTGATATCCATGATGCTGGGTGCCCCAGCGCACACGGGATGGAGAGGTGAGAACTAA ATCACAGAGAGGTAAAATGGAGGCCAGTGCCATTTCAGAGGGGAGGCTCAGGAAGGCTTCTTGCTTACAGGAATG TGCCTGCTGAAGCTGGTGACTACGGGGTCGCCCTTTGCTCACGTCTCTCTGGCCCACTCATGATGGAGAAGTGTG GTCAGAGGGGAGCAATGGGCTTTGCTGCTTATGAGCACAGAGGAATTCAGTCCCCAGGCAGCCCTGCCTCTGACT CCAAGAGGGTGAAGTCCACAGAAGTGAGCTCCTGCCTTAGGGCCTCATTTGCTCTTCATCCAGGGAACTGAGCAC AGGGGGCCTCCAGGAGACCCTAGATGTGCTCGTACTCCCTCGGCCTGGGATTTCAGAGCTGGAAATATAGAAAAT ATCTAGCCCAAAGCCTTCATTTTAACAGATGGGGAAAGTGAGCCCCCAAGATGGGAAAGAACCACACAAGCTAAGG GAGGGCCTGGGGAGCCCCACCCTAGCCCTTGCTGCCACACCACATTGCCTCAACAACCGGCCCCAGAGTGCCCAG GCACTCCTGAGGTAGCTTCTGGAAATGGGGACAAGTCCCCTCGAAGGAAAGGAAATGACTAGAGTAGAATGACAG TTCACTTGTTCACTACCTGTCAGCCCAGCCTGGGTGCACAGTAGCTGCAACTCCCCATTGGTGCTACCTGGCTC TCCTGTCTCTGCAGCTCTACAGGTGAGGCCCAGCAGAGGGAGTAGGGCTCGCCATGTTTCTGGTGAGCCAATTTG GCTGATCTTGGGTGTCTGAACAGCTATTGGGTCCACCCCAGTCCCTTTCAGCTGCTGCTTAATGCCCTGCTCTCT CCCTGGCCCACCTTATAGAGAGCCCCAAAGAGCTCCTGTAAGAGGGAGAACTCTATCTGTGGTTTATAATCTTGCA CGAGGCACCAGAGTCTCCCTGGGTCTTGTGATGAACTACATTTATCCCCTTTCCTGCCCCAACCACAAACTCTTT CCTTCAAAGAGGGCCTGCCTGGCTCCCTCCACCCAACTGCACCCATGAGACTCGGTCCAAGAGTCCATTCCCCAG GTGGGAGCCAACTGTCAGGGAGGTCTTTCCCACCAAACATCTTTCAGCTGCTGGGAGGTGACCATAGGGCTCTGC GGAGAGTTAAAATGACCTCATGTCCTTCTTGTCCACGGTTTTGTTGAGTTTTCACTCTTCTAATGCAAGGGTCTC ACACTGTGAACCACTTAGGATGTGATCACTTTCAGGTGGCCAGGAATGTTGAATGTCTTTGGCTCAGTTCATTTA AAAAAGATATCTATTTGAAAGTTCTCAGAGTTGTACATATGTTTCACAGTACAGGATCTGTACATAAAAGTTTCT TTCCTAAACCATTCACCAAGAGCCAATATCTAGGCATTTTCTTGGTAGCACAAATTTTCTTATTGCTTAGAAAAT TGTCCTCCTTGTTATTTCTGTTTGTAAGACTTAAGTGAGTTAGGTCTTTAAGGAAAGCAACGCTCCTCTGAAATG TCAGAGAAATAAAGAATTGTCTTAAATGTC

MGAAGRQDFLFKAMLTISWLTLTCFPGATSTVAAGCPDQSPELQPWNPGHDQDHHVHIGQGKTLLLTSSATVYSI HISEGGKLVIKDHDEPIVLRTRHILIDNGGELHAGSALCPFQGNFTIILYGRADEGIQPDPYYGLKYIGVGKGGA LELHGQKKLSWTFLNKTLHPGGMAEGGYFFERSWGHRGVIVHVIDPKSGTVIHSDRFDTYRSKKESERLVQYLNA VPDGRILSVAVNDEGSRNLDDMARKAMTKLGSKHFLHLGFRHPWSFLTVKGNPSSSVEDHIEYHGHRGSAAARVF KLFQTEHGEYFNVSLSSEWVQDVEWTEWFDHDKVSQTKGGEKISDLWKAHPGKICNRPIDIQATTMDGVNLSTEV VYKKGQDYRFACYDRGRACRSYRVRFLCGKPVRPKLTVTIDTNVNSTILNLEDNVQSWKPGDTLVIASTDYSMYQ AEEFQVLPCRSCAPNQVKVAGKPMYLHIGEEIDGVDMRAEVGLLSRNIIVMGEMEDKCYPYRNHICNFFDFDTFG GHIKFALGFKAAHLEGTELKHMGQQLVGQYPIHFHLAGDVDERGGYDPPTYIRDLSIHHTFSRCVTVHGSNGLLI KDVVGYNSLGHCFFTEDGPEERNTFDHCLGLLVKSGTLLPSDRDSKMCKMITEDSYPGYIPKPRQDCNAVSTFWM ANPNNNLINCAAAGSEETGFWFIFHHVPTGPSVGMYSPGYSEHIPLGKFYNNRAHSNYRAGMIIDNGVKTTEASA KDKRPFLSIISARYSPHQDADPLKPREPAIIRHFIAYKNQDHGAWLRGGDVWLDSCRFADNGIGLTLASGGTFPY DDGSKQEIKNSLFVGESGNVGTEMMDNRIWGPGGLDHSGRTLPIGONFPIRGIQLYDGPINIQNCTFRKFVALEG $\verb"RHTSALAFRL' NNAWQSCPHN'N' TGIAFED VPITSRVFFGEPGPWFNQLDMDGDKTSVFHDVDGSVSEYPGSYLTKOM TO STANDARD STA$ NDNWLVRHPDCINVPDWRGAICSGCYAQMYIQAYKTSNLRMKIIKNDFPSHPLYLEGALTRSTHYQQYQPVVTLQ KGYTIHWDQTAPAELAIWLINFNKGDWIRVGLCYPRGTTFSILSDVHNRLLKQTSKTGVFVRTLQMDKVEQSYPG RSHYYWDEDSGLLFLKLKAQNEREKFAFCSMKGCERIKIKALIPKNAGVSDCTATAYPKFTERAVVDVPMPKKLF GSQLKTKDHFLEVKMESSKQHFFHLWNDFAYIEVDGKKYPSSEDGIQVVVIDGNQGRVVSHTSFRNSILQGIPWQ LFNYVATIPDNSIVLMASKGRYVSRGPWTRVLEKLGADRGLKLKEOMAFVGFKGSFRPIWVTLDTEDHKAKIFQV **VPIPVVKKKKL**

AGTCCTGCTCTCCGCACGCCACCTTAGGCCCGCAGCCGTGCCGGGTGCTCTTCAGCATGTCCTTCATCCCGGTGG TAGGTGTGGCCATTGGCGACCAGATCCTGGACCTCAGCATCATCAAGCACCTCTTTACTGGTCCTGTCCTCTCCA GAGTGTTCTTGCAGAACTTGCTGTGTGTGGGCCAAGCCAGGCTCAGAGATGACACCGAACTTCGGAAGTGTGCAT ${\tt TCATCTCCCAGGCTTCTGCCACGATGCACCTTCCAGCCACCATAGGAGACTACACAGACTTCTATTCCTCTCGGC}$ AGCATGCTACCAACGTCGGAATCATGTTCAGGGACAAGGAGAATGCGTTGATGCCAAATTGGCTGCACTTACCAG TGGGCTACCATGGCCGTGCCTCCTCTGTCGTGGTGTCTCGCACCCCAATCCGAAGGCCCATGGGACAGATGAAAC CTGATGACTCTAAGCCTCCCGTATATGGTGCCTGCAAGCTCTTGGACATGGACTGGAAATGGCTTTTTTTGTAG GCCCTGGAAACAGATTGGGAGAGCCGATCCCCATTTCCAAGGCCCATGAGCACATTTTTGGAATGGTCCTTATGA CCACTGTCTCCCGTGGGTGCTCCCATGGATGCTCTCATGCCCTTTGCTGTGCCCAACCCGAAGCAGGACCCCA GGCCCCTGCCGTATCTGTGCCATGACGAGCCCTACACATTTGACATCAACCTCTCTGTTAACCTGAAAGGAGAAG GAATGAGCCAGGCGGCTACCATATGCAAGTCCAATTTTAAGTACATGTACTGGACGATGCTGCAGCAGCTCACTC AAAACTTCGGCTCCATGTTGGAACTGTCGTGGAAGGGAACGAAGCCCATAGACCTGGGGAATGGTCAGACCAGGA AGTTTCTGCTGGACGGGGTGAAGTCATCATAACAGGGTACTGCCAGGGGGATGGTTACCGCATCGGCTTTGGCC AGTGTGCTGGAAAAGTGCTGCCTGCTCTCCTGCCATCATGAGATTTTCTCTGCTCTTCTGGAAACAAAGGGCTCA AGCACCCCTTTCAACCCTGTGACTGGGGTCCTCCCTCGGGCTGTAGGCCTGGTCCGCCATTCAGTGACAAATAAA GCCATTGTGCTCTGAGGCCTGC

MSFIPVAEDSDFPIHNLPYGVFSTRGDPRPRIGVAIGDQILDLSIIKHLFTGPVLSKHQDVFNQPTLNSFMGLGQ
AAWKEARVFLQNLLSVSQARLRDDTELRKCAFISQASATMHLPATIGDYTDFYSSRQHATNVGIMFRDKENALMP
NWLHLPVGYHGRASSVVVSGTPIRRPMGQMKPDDSKPPVYGACKLLDMELEMAFFVGPGNRLGEPIPISKAHEHI
FGMVLMNDWSARDIQKWEYVPLGPFLGKSFGTTVSPWVVPMDALMPFAVPNPKQDPRPLPYLCHDEPYTFDINLS
VNLKGEGMSQAATICKSNFKYMYWTMLQQLTHHSVNGCNLRPGDLLASGTISGPEPENFGSMLELSWKGTKPIDL
GNGQTRKFLLDGDEVIITGYCQGDGYRIGFGQCAGKVLPALLPS

FIGURE 4302

CCCGGGGGGTGGCGGGCCCAGGCCCTATTGGCCGGGAGCCGGACCCCGATTCCGACTGGGAGCCGGAGGAACGGG AGCTGCAGGAGGTGGAGAGGTACCGGCTTCTCCCCGGGCCCTCAGCTTGAAGCAGGGCCTCGTGCCCCGGCGCTC CAGGCCGCCCCCTTGGCGCCGGGTGTCCTGCCGCTGCTTGCGCAGCGGCCCTTGTTTCTTCTTACCCGTTGTT AGGGGCGCAGCGTCAGGTGTTCAGCTCCCCGGGACCACTGGTCCCTTCATTAGTGACGTATTTCATCATCAGTTT AGAGAGTTCGGCATGCTTACAGGCAGTTATTGTTCTAGGTGTTAGCTTTCTGGGTGTACGGAGCAGCTCTAAGCC GGCAACATGGCCCGGTTGCCCTTGCGATCAAAGAGAAGAGGGCTGGGCGCTCCATGATTTAGCCTGAGGCTCTTC AAACATCCATTCTGCTTCCACGCATGGCTTCTGCCATTGGTTCTCTTCCCCCAGCACCCTGAAACGACAGAAACA AGCAATCCGATTCCAGAAAATTCGGAGGCAA<u>ATC</u>GAGGCGCCTGGTGCCCCGCCCAGGACCCTGACGTGGGAAGC CATGGAGCAGATACGGTATTTACATGAGGAATTTCCAGAGTCCTGGTCAGTTCCCAGGTTGGCTGAAGGCTTTGA TGTCAGCACTGATGTGATCCGAAGAGTTTTAAAAAGCAAGTTTTTACCCACATTGGAGCAGAAGCTGAAGCAGGA TCAAAAAGTCCTTAAGAAAGCTGGGCTTGCCCACTCGCTGCAGCACCTCCGGGGCTCTGGAAATACCTCAAAGCT GCTCCCTGCAGGCCACTCTGTATCAGGCTCTTTGCTTATGCCAGGGCATGAAGCCTCATCTAAAGACCCAAATCA AGAAATCCAGGACCTGGAGGAGGAGCTTTGTGCCTGTTGCTGCACCCCTAGGTCATCCAAGAGAGCTGCAGAAGTA CTCCAGTGATTCTGAGAGCCCCAGAGGAACTGGCAGTGGTGCGTTGCCAAGTGGTCAGAAGCTGGAGGAGTTGAA GGCAGAGGAGCCAGATAACTTCAGCAGCAAAGTAGTGCAGAGGGGCCGAGAGTTCTTTGACAGCAACGGGAACTT $\texttt{CCTGTACAGAATT} \underline{\textbf{TGA}} \texttt{GTCGGGGGCTTGGCTTATGGAGATGCCTCGTGAAACACAGCTGGGCAAGTATTAATGTAT}$ ATGGAACAGCCTGGATTTCTGCATATGGATAAGCCACCTTGGAATAGGAAGAGGTGTTGAGCCTGGACTGTGGGA GGAAAGAGCTGCGTGGATAGATTCAAACTTCCTGTGGTAGTGCTCCCAGTCTGACCTCTGTAGACCTTCAGTACT CACTCTTCTTGCTTAGGCTCTCTGTGTTGAAAGCCATCCCGTGTTGCATGTGTTACAATTTTCTGTGATA CTTGCAATTTATGTTTGAGAAGAAGTGAAAAGTTTGCCTTCTGACCTCATTTCCTTCTTGATCAGTGAACACTAA AAAA

FIGURE 4303

MEAPGAPPRTLTWEAMEQIRYLHEEFPESWSVPRLAEGFDVSTDVIRRVLKSKFLPTLEQKLKQDQKVLKKAGLA HSLQHLRGSGNTSKLLPAGHSVSGSLLMPGHEASSKDPNHSTALKVIESDTHRTNTPRRRKGRNKEIQDLEESFV PVAAPLGHPRELQKYSSDSESPRGTGSGALPSGQKLEELKAEEPDNFSSKVVQRGREFFDSNGNFLYRI WO 2004/030615 PCT/US2003/028547

4666/6881 FIGURE 4304

WO 2004/030615 PCT/US2003/028547

4668/6881 FIGURE 4306

MGGSGSRLSKELLAEYQDLTFLTKQEILLAHRRFCELLPQEQRTVESSLRAQVPFEQILSLPELKANPFKERICR VFSTSPAKDSLSFEDFLDLLSVFSDTATPDIKSHYAFRIFDFDDDGTLNREDLSRLVNCLTGEGEDTRLSASEMK QLIDNILEESDIDRDGTINLSEFQHVISRSPDFASSFKIVL

4669/6881 FIGURE 4307A

CAGGGCCCACTTGACCCTGTTTCCCACCTCCCGCCCCCCAGGTCCGGAGGCGGGGGCCCCCGGGGCGACTCGGGG $\texttt{CCTGCTCTCGGA} \underline{\textbf{ATG}} \\ \texttt{CTGCGCACCGCGATGGGCCTGAGGAGCTGGCTCGCCCCATGGGGCGCGCTGCCGCCT} \\$ CGGCCACCGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCAGCCGCCCCCCGACCTGGGCGCTCAGCCCC CGGATCAGCCTGCCTCTGGGCTCTGAAGAGCGGCCATTCCTCAGATTCGAAGCTGAACACATCTCCAACTACACA GCCCTTCTGCTGAGCAGGGATGGCAGGACCCTGTACGTGGGTGCTCGAGAGGCCCTCTTTGCACTCAGTAGCAAC TTCAAGGGCAAGGACCCACAGCGCGACTGTCAAAACTACATCAAGATCCTCCTGCCGCTCAGCGGCAGTCACCTG TTCACCTGTGGCACAGCCCTTCAGCCCCATGTGTACCTACATCAACATGGAGAACTTCACCCTGGCAAGGGAC GAGAAGGGGAATGTCCTCCTGGAAGATGGCAAGGGCCGTTGTCCCTTCGACCCGAATTTCAAGTCCACTGCCCTG GTGGTTGATGGCGAGCTCTACACTGGAACAGTCAGCAGCTTCCAAGGGAATGACCCGGCCATCTCGCGGAGCCAA AGCCTTCGCCCACCAGAGCCGAGAGCTCCCTCAACTGGCTGCAAGACCCAGCTTTTGTGGCCTCAGCCTACATT ${\tt CCTGAGAGCCTGGGCAGCTTGCAAGGCGATGATGACAAGATCTACTTTTCTTCAGCGAGACTGGCCAGGAATTT}$ GAGTTCTTTGAGAACACCATTGTGTCCCGCATTGCCCGCATCTGCAAGGGCGATGAGGGTGGAGAGCGGGTGCTA CAGCAGCGCTGGACCTCCTTCCTCAAGGCCCAGCTGCTGTGCTCACGGCCCGACGATGGCTTCCCCTTCAACGTG CAGTGGCACAGGGGAACTACAGAAGGCTCTGCCGTCTGTGTCTTCACAATGAAGGATGTGCAGAGAGTCTTCAGC GGAGCGTGCATCACCAACAGTGCCCGGGAAAGGAAGATCAACTCATCCCTGCAGCTCCCAGACCGCGTGCTGAAC TTCCTCAAGGACCACTTCCTGATGGACGGCAGGTCCGAAGCCGCATGCTGCTGCTGCAGCCCCAGGCTCGCTAC ${\tt CAGCGCTGGCTGTACACCGCGTCCTGGCCTGCACCACCTACGATGTCCTCTTGGGCACTGGTGACGGC}$ CGGCTCCACAAGGCAGTGAGCGTGGGCCCCCGGGTGCACATCATTGAGGAGCTGCAGATCTTCTCATCGGGACAG CCCGTGCAGAATCTGCTCCTGGACACCCACAGGGGGCTGCTGTATGCGGCCTCACACTCGGGCGTAGTCCAGGTG CCCATGGCCAACTGCAGCCTGTACAGGAGCTGTGGGGGACTGCCTCCTCGCCCGGGACCCCTACTGTGCTTGGAGC GGCTCCAGCTGCAAGCACGTCAGCCTCTACCAGCCTCAGCTGGCCACCAGGCCGTGGATCCAGGACATCGAGGGA GCCAGCGCCAAGGACCTTTGCAGCGCGTCTTCGGTTGTGTCCCCGTCTTTTGTACCAACAGGGGAGAAGCCATGT GAGCAAGTCCAGCTCAGCCCAACACAGTGAACACTTTGGCCTGCCCGCTCCTCCCAACCTGGCGACCCGACTC TGGCTACGCAACGGGGCCCCGTCAATGCCTCGGCCTCCTGCCACGTGCTACCCACTGGGGACCTGCTGGTG GGCACCCAACAGCTGGGGGAGTTCCAGTGCTGGTCACTAGAGGAGGGCTTCCAGCAGCTGGTAGCCAGCTACTGC CCAGAGGTGGTGGAGGACGGGGTGCAGACCAAACAGATGAGGGTGGCAGTGTACCCGTCATTATCAGCACATCG CGTGTGAGTGCACCAGCTGGTGGCAAGGCCAGCTGGGGTGCAGACAGGTCCTACTGGAAGGAGTTCCTGGTGATG TGCACGCTCTTTGTGCTGCCGTGCTCCCAGTTTTATTCTTGCTCTACCGGCACCGGAACAGCATGAAAGTC TTCCTGAAGCAGGGGGAATGTGCCAGCGTGCACCCCAAGACCTGCCCTGTGGTGCTGCCCCTGAGACCCGCCCA CTCAACGGCCTAGGGCCCCCTAGCACCCCGCTCGATCACCGAGGGTACCAGTCCCTGTCAGACAGCCCCCCGGGG TCCCGAGTCTTCACTGAGTCAGAGAGAGGCCACTCAGCATCCAAGACAGCTTCGTGGAGGTATCCCCAGTGTGC CCCCGGCCCCGGGTCCGCCTTGGCTCGGAGATCCGTGACTCTGTGGTGTGAGAGCTGACTTCCAGAGGACGCTGC CCTGGCTTCAGGGGCTGTGAATGCTCGGAGAGGGTCAACTGGACCTCCCCTCCGCTCTGCTCTTCGTGGAACACG ACCGTGGTGCCCGGCCCTTGGGAGCCTTGGGGCCAGCTGGCCTGCTCTCCAGTCAAGTAGCGAAGCTCCTAC TGCTCCTTATGTAAACTGAGCCCTTTGTTTAAAAAACAATTCCAAATGTGAAACTAGAATGAGAGGGAAGAGATA GCATGCCATGCAGCACACGCTGCTCCAGTTCATGGCCTCCCAGGGGTGCTGGGGATGCATCCAAAGTGGTTG TCTGAGACAGAGTTGGAAACCCTCACCAACTGGCCTCTTCACCTTCCACATTATCCCGCTGCCACCGGCTGCCCT GTCTCACTGCAGATTCAGGACCAGCTTGGGCTGCGTTCTGCCTTGCCAGTCAGCCGAGGATGTAGTTGTTG CTGCCGTCGTCCCACCACCTCAGGGACCAGAGGGCTAGGTTGGCACTGCGGCCCTCACCAGGTCCTGGGCTCGGA CCCAACTCCTGGACCTTTCCAGCCTGTATCAGGCTGTGGCCACACGAGAGGACAGCGCGAGGCTCAGGAGATTT

4670/6881 FIGURE 4307B

GTCCTCTCCCCAGTCCCCAGTTCACCCTCCATCCCTCACCTTCCTCCACTCTAAGGGATATCAACACTGCCCAGC ACAGGGGCCCTGAATTTATGTGGTTTTTTATACATTTTTTAATAAGATGCACTTTATGTCATTTTTTAATAAAGTC TGAAGAATTACTGTTT

MLRTAMGLRSWLAAPWGALPPRPPLLLLLLLLLLLQPPPPTWALSPRISLPLGSEERPFLRFEAEHISNYTALLL SRDGRTLYVGAREALFALSSNLSFLPGGEYQELLWGADAEKKQQCSFKGKDPQRDCQNYIKILLPLSGSHLFTCG TAAFSPMCTYINMENFTLARDEKGNVLLEDGKGRCPFDPNFKSTALVVDGELYTGTVSSFQGNDPAISRSQSLRP TKTESSLNWLQDPAFVASAYIPESLGSLQGDDDKIYFFFSETGQEFEFFENTIVSRIARICKGDEGGERVLQQRW TSFLKAQLLCSRPDDGFPFNVLQDVFTLSPSPQDWRDTLFYGVFTSQWHRGTTEGSAVCVFTMKDVQRVFSGLYK EVNRETQQWYTVTHPVPTPRPGACITNSARERKINSSLQLPDRVLNFLKDHFLMDGQVRSRMLLLQPQARYQRVA VHRVPGLHHTYDVLFLGTGDGRLHKAVSVGPRVHIIEELQIFSSGQPVQNLLLDTHRGLLYAASHSGVVQVPMAN CSLYRSCGDCLLARDPYCAWSGSSCKHVSLYQPQLATRPWIQDIEGASAKDLCSASSVVSPSFVPTGEKPCEQVQ FQPNTVNTLACPLLSNLATRLWLRNGAPVNASASCHVLPTGDLLLVGTQQLGEFQCWSLEEGFQQLVASYCPEVV EDGVADQTDEGGSVPVIISTSRVSAPAGGKASWGADRSYWKEFLVMCTLFVLAVLLPVLFLLYRHRNSMKVFLKQ GECASVHPKTCPVVLPPETRPLNGLGPPSTPLDHRGYQSLSDSPPGSRVFTESEKRPLSIQDSFVEVSPVCPRPR VRLGSEIRDSVV

PCT/US2003/028547

4672/6881 FIGURE 4309A

GGTGATTGTGTTACAGTGCTGCTGAAGAGGACAAAGCTGAAGATGATGTAGTGTTTTACTTGGTATTT TTGGGTTCCACCCTCCGTCACTGTACAAGTACTCGGAAGGTCAGTTCTGATACATTGGAGACCATTGCTCCTGGT CATGATTGTTGTGAAACAGTGAAGGTGCAGCTCTGTGCTTCCAAAGAGGGCCCTTCCCGTGTTTTGTGGTGGCTGAA GAAGACTTTCATTTCGTCCAGGATGAAGCGTATGATGCAGCTCAATTCCTAGCAACCAGTGCTGGAAATCAGCAG GCTTTGAACTTTACCCGTTTTCTTGACCAGTCAGGACCCCCATCTGGGGATGTGAATTCCCTTGATAAGAAGTTG GTGCTGGCATTCAGGCACCTGAAGCTGCCCACGGAGTGGAATGTATTGGGGACAGATCAGAGTTTGCATGATGCT GGCCCGCGAGAGACATTGATGCATTTTGCTGTGCGGCTGGGACTGCTGAGGTTGACGTGGTTCCTGTTGCAGAAG ${\tt CCAGGTGGCCGCGGAGCTCTCAGTATCCACAACCAGGAAGGGCGACGCCTGTGAGCTTGGCCTTGGAGCGAGGCT}$ ATCACAAGCTGCACCAGCTTCTAACCGAGGAGAATGCTGGAGAACCAGACTCCTGGAGCAGTTTATCCTATGAAA TACCGTATGGAGACTGTTCTGTGAGGCATCATCGAGAGTTGGACATCTATACATTAACCTCTGAGTCTGATTCAC ATCATGAACACCCATTTCCTGGAGACGGTTGCACTGGACCAATTTTTAAACTTATGAACATCCAACAGCAACTAA TGAAAACAAACCTCAAGCAGATGGACAGTCTTATGCCCTTAATGATGACAGCACAGGATCCTTCCAGTGCCCCAG $\tt CTATTGTGGACTCTGGAACTGTATCTGATCAAGACAGCTGCCTTCAGAGCTTGCCTGATTGTGGAGTAAAGGGCA$ CGGÄAGGCCTTTCGTCCTGTGGAAACAGAAATGAAGAAACTGGAACAAAATCTTCTGGAATGCCCACAGACCAGG AGTCCCTGAGCAGTGGAGATGCTGTGCTTCAGAGAGACTTGGTCATGGAGCCAGGCACAGCCCAGTATTCCTCTG GAGGTGAACTGGGAGGCATTTCAACAACAAATGTCAGTACCCCAGACACTGCAGGGGAAATGGAACATGGGCTCA ATATTGGCACAGCTGGAGCCTCTGACGTGCACGTCACAAGTAAGCCTGTGGATAAAATCAGTGTTCCAAACTGTG CTGAAAAAACAGCAGAAACGGAAACTTCACGAAGTCGTGAGGAGAGTGCTGATGCTCCAGTAGATCAGAATTCTG TGGTGATTCCAGCTGCTGCAAAAGACAAGATTTCAGATGGATTAGAACCTTATACTCTCTTAGCAGCAGGCATAG GTGAGGCAATGTCACCCTCAGATTTAGCCCTTCTTGGGCTGGAAGAAGATGTAATGCCACACCAGAACTCAGAAA CAAATTCATCTCATGCTCAAAGCCAAAAGGGCAAATCCTCACCCATTTGTTCTACAACTGGAGACGATAAACTTT GTGCAGACTCTGCATGTCAACAGAACACAGTGACTTCTAGTGGCGATTTGGTTGCAAAACTGTGTGATAACATAG TTAGCGAGTCCGAAAGCACCACCAGCAAGCCAACCCAGCTCACAAGATCCACCCGATGCCTCCCACTGTGAAGACC CACAGGCTCATACAGTCACCTCTGACCCTGTAAGGGATACCCAGGAACGTGCGGATTTTTGTCCTTTCAAAGTGG TGGATAACAAAGGCCAACGAAAAGATGTGAAACTAGATAAACCTTTAACAAATATGCTTGAGGTGGTTTCACATC CACATCCAGTTGTCCCTAAAATGGAGAAAGAACTGGTGCCAGACCAGGCAGTAATATCAGACAGTACTTTCTCTC GAACAGCAACTCCTGAACTACATACAGCTACAGATTATAGAGATGGCCCAGATGGAAATTCGAATGAGCCTGATA ATACCAGTCTCACAGGACTTGGTGGAGAGCATGAGGGTCCCGCCCCTCCAGCAATCCCAGAAGCTCTGAATATCA AGGGGAACACTGACTCTTCCCTGCAAAGTGTGGGTAAGGCCACTTTGGCTTTAGATTCAGTTTTGACTGAAGAAG GAAAACTTCTGGTGGTTTCAGAAAGCTCTGCAGCTCAGGAACAAGATAAGGATAAAGCGGTGACCTGTTCCTCTA AATTTCATGAAAAATCAATCTCAGCTGACTGTGCCAAGGACAAAGCACTTCAGCTAAGTAATTCACCGGGTGCAT CCTCTGCCTTTCTTAAGGCAGAACTGAACATAACAAGGAAGTGGCCCCACAAGTCTCACTGCTGACTCAAGGTG GGGCTGCCCAGAGCCTGGTGCCACCAGGAGCAAGTCTGGCCACAGAGTCAAGGCAGGAAGCCTTGGGGGCAGAGC ${\tt ACAACAGCTCCGCTCTGTTGCCATGTCTGTTGCCAGATGGGTCTGATGGGTCCGATGCTCTTAACTGCAGTCAGCT$ CTTCTCCTCTGGATGTTGGAGTGAAGAACACTCAATCCCAGGGAAAAACTAGTGCCTGTGAGGTGAGTGGAGATG TGACGGTGGATGTTACAGGGGTTAATGCTCTACAAGGTATGGCTGAGCCCAGAAGAGAGAATATATCACACAACA CCCAAGACATCCTGATTCCAAACGTCTTGTTGAGCCAAGAGAAGAATGCCGTTCTAGGTTTGCCAGTGGCTCTAC AGGACAAAGCTGTGACTGACCCACAGGGAGTTGGAACCCCAGAGATGATACCTCTTGATTGGGAGAAAGGGAAGC TGGAGGGAGCAGACCACAGCTGTACCATGGGTGACGCTGAGGAAGCCCAAATAGACGATGAAGCACATCCTGTCC TACTGCAGCCTGTTGCCAAGGAGCTCCCCACAGACATGGAGCTCTCAGCCCATGATGATGGGGCCCCAGCTGGTG

4673/6881 FIGURE 4309B

TGAGGGAAGTCATGCGAGCCCCGCCTTCAGGCAGGGAAAGGAGCACTCCCTCTCTACCTTGCATGGTCTCTGCCC AGGACGCACCTCTGCCTAAGGGGGCAGACTTGATAGAGGAGGCTGCCAGCCGTATAGTGGATGCTGTCATCGAAC AAGTCAAGGCCGCTGGAGCACTGCTTACTGAGGGGGGAGGCCTGTCACATGTCACTGTCCAGCCCTGAGTTGGGTC CTCTCACTAAAGGACTAGAGAGTGCTTTTACAGAAAAAGTGAGTACTTTCCCACCTGGGGAGAGCCTACCAATGG GCAGTACTCCTGAGGAAGCCACGGGGAGCCTTGCAGGATGTTTTGCTGGAAGGAGGAGCCAGAGAAGATCATTT TACCTGTCCAGGGGCCTGAGCCAGCAGCAGAAATGCCAGACGTGAAAGCTGAAGATGAAGTGGATTTTAGAGCAA GTTCAATTTCTGAAGAAGTGGCTGTAGGGAGCATAGCTGCTACACTGAAGATGAAGCAAGGCCCAATGACCCAGG CGATAAACCGAGAAAACTGGTGTACAATAGAGCCATGCCCTGATGCAGCATCTCTTCTGGCTTCCAAGCAGAGCC CAGAATGTGAGAACTTCCTGGATGTTGGACTGGGCAGAGAGTGTACCTCAAAACAAGGTGTACTTAAAAGAGAAT CTGGGAGTGATTCTGACCTCTTTCACTCACCCAGTGATGACATGGACAGCATCATCTTCCCAAAGCCAGAGGAAG AGCATTTGGCCTGTGATATCACCGGATCCAGTTCATCCACCGATGACACGGCTTCACTGGACCGACATTCTTCTC ATGGCAGTGATGTCTCTCCCCAGATTTTAAAGCCAAACAGGTCAAGAGATCGGCAAAGCCTTGATGGATTCT AGATGGACAGTATCACTGAAGTGCCTGCAAACTGCTCTGTCCTAAGGAGCTCCATGCGCTCTTTCTCCCTTCC GGAGGCACAGCTGGGGGCCTGGGAAAAATGCAGCCAGCGATGCAGAAATGAACCACCGGAGTATGAGCTGGTGCC CCTCTGGTGTGCAGTACTCTGCCTGGCCTGAGTGCTGACTTTAATTACAGAAGTTTCAGTCTAGAAGGCTTGACAG GAGGAGCTGGTGTCGGAAACAAGCCATCCTCATCTCTAGAAGTAAGCTCTGCAAATGCCGAAGAGCTCAGACACC CATTCAGTGGTGAGGAACGGGTTGACTCTTTGGTGTCACTTTCAGAAGAGGATCTGGAGTCAGACCAGAGAGAAC ATAGGATGTTTGATCAGCAGATATGTCACAGATCTAAGCAGCAGTGTTAATTACTGTACATCAGCCATTTCCT CTCCATTGACAAAATCCATCTCATTAATGACAATCAGCCATCCTGGATTGGACAATTCACGGCCCTTCCACAGTA CCTTCCACAATACCAGTGCTAATCTGACTGAGAGTATAACAGAAGAGAACTATAATTTCCTGCCACATAGCCCCT AAGATAAGAAGACTGTCAACGGGCACACTTTCAGTTCCATTCCTGTTGTGGGTCCCATCAGCTGTAGCCAGTGTA TGAAGCCCTTCACCAACAAAGATGCCTATACTTGTGCAAATTGCAGTGCTTTTTGTCCACAAAGGCTGCCGAGAAA GTCTAGCCTCCTGTGCAAAGGTCAAAATGAAGCAGCCCAAAGGGAGCCTTCAGGCACATGACACATCATCACTGC CCACGGTCATTATGAGAAACAAGCCCTCACAGCCCAAGGAGCGTCCTCGGTCCGCAGTCCTCCTGGTGGATGAAA CCGCTACCACCCAATATTTGCCAATAGACGATCCCAGCAGAGTGTCTCGCTCTCCAAAAGTGTCTCCATACAGA ACATTACTGGAGTTGGCAATGATGAGAACATGTCAAACACCTGGAAATTCCTGTCTCATTCAACAGACTCACTAA AACTACTGGGAGACTTTGAGATTGAGTCCAAACAGCTGGAAGCAGAGTCTTGGAGTCGGATAATAGACAGCAAGT ATGTCCGCACTCTCAAGATCATGAGTGTGTGTACAGCCAGGGGATGATGGCGGATCTGCTTTTTGAGCAGCAGA TGGTAGAAAAGCTGTTCCCCTGTTTGGATGAGCTGATCAGTATCCATAGCCAATTCTTCCAGAGGATTCTGGAGC GGAAGAAGGAGTCTCTGGTGGATAAAAGTGAAAAGAACTTTCTCATCAAGAGGATAGGGGATGTGCTTGTAAATC AGTTTTCAGGTGAGAATGCAGAACGTTTAAAGAAGACATATGGCAAGTTTTGTGGGCAACATAACCAGTCTGTAA ACTACTTCAAAGACCTTTATGCCAAGGATAAGCGTTTTCAAGCCTTTGTAAAGAAGAAGATGAGCAGTTCAGTTG TTAGAAGGCTTGGAATTCCAGAGTGCATATTGCTTGTAACTCAGCGGATTACCAAGTACCCAGTTTTATTCCAAA GAATATTGCAGTGTACCAAAGACAATGAAGTGGAGCAGGAAGATCTAGCACAGTCCTTGAGCCTGGTGAAGGATG ATAGCAAGTCAATCATGAGGATGAAGAGTGGTCAGATGTTTGCCAAGGAAGATTTGAAACGGAAGAAGCTTGTAC GTGATGGGAGTGTGTTTCTGAAGAATGCAGCAGGAAGGTTGAAAGAGGTTCAAGCAGTTCTTCTCACTGACATTT TAGTTTTCCTTCAAGAAAAAGACCAGAAGTACATCTTTGCATCATTGGACCAGAAGTCAACAGTGATCTCTTTAA AGATGGTAGAAGTCCATGCCAGCTCCAAAGAGGAACGAAACAGCTGGATTCAGATCATTCAGGACACAATCAACA $\verb|CCCTGAACAGAGATGAAGAATTCCTAGTGAGAATGAGGAAAAAGAAAATGTTGGACACCAGAGCCC|$ GAGAATTAAAAGAACAACTTCACCAGAAGGACCAAAAAATCCTACTCTTGTTGGAAGAAGAAGAGATGATTTTCC GGGACATGGCTGAGTGCAGCACCCCTCTCCCAGAGGATTGCTCCCCAACACATAGCCCTAGAGTTCTCTTCCGCT

FIGURE 4309C

CCAACACAGAAGAGGCTCTCAAAGGAGGACCTTTAATGAAAAGTGCAATAAATGAGGTGGAGATCCTTCAGGGTT TTTCCCTGCCCGGAGAGCAGAGCCTTTGGAGGATTTGACAGCCATCAGATGAATGCTTCAAAAGGAGGCGAGA AGGAAGAGGGAGATGATGGCCAAGATCTTAGGAGAACGGAATCAGATAGTGGCCTAAAAAAGGGTGGAAATGCTA ACCTGGTATTTATGCTTAAAAGAAACAGTGAGCAGGTTGTCCAGAGCGTTGTTCATCTCTACGAGCTCCTCAGCG CTCTGCAGGGTGTGGTGCTGCAGCAGGACAGCTACATTGAGGACCAGAAACTGGTGCTGAGCGAGAGGGCGCTCA CTCGCAGCTTGTCCCGCCCGAGCTCCCTCATTGAGCAGGAGAAGCAGCGCAGCCTGGAGAAGCAGCGCCAGGACC TGGCCAACCTGCAGAAGCAGCCCAGTACCTCGAGGAGAAGCGCAGGCGCGAGCGTGAGTGGGAAGCTCGTG AGAGGGAGCTGCGGGAGCCGGAGGCCCTCCTGGCCCAGCGCGAGGAGGAGGTGCAGCAGGACCAGGACCTGG AAAAGGAGCGGAGGAGCTCCAGCAGAAGAAGGGCACATACCAGTATGACCTGGAGCGACTGCGTGCTGCCCAGA TGTGTCAGGTTTCCCATCCACATACCAAGCTGATGAGGATCCCATCGTTCTTCCCCAGTCCTGAGGAGCCCCCCT CGCCATCTGCACCTTCCATAGCCAAATCAGGGTCATTGGACTCAGAACTTTCAGTGTCCCCAAAAAGGAACAGCA GGCAGAGCCAGGCCCTGCGTCCACCTCTGCCTCTACCCGCCTGTTTGGGTTAACAAAGCCAAAGGAAAAGAAGG AGAAAAAAAGAAGAACAAAACCAGCCGCTCTCAGCCCGGTGATGGTCCCGCGTCAGAAGTATCAGCAGAGGTG AAGAGATCTTCTGCTGACCCTCTTCCTCTGCTGAGGCAGCTGCCTCCTGATCCTGGCCAGCCCACCTCTCCTG CTGTCCCCGCGTGCACAAGTCTCTTACACTGGACGCCCACTGCTCCTCAGCGTCCAGTCCTCCTGGGCGGCCCCA GGTCCTGGACAATAAGCAACAGATGATATTGAGTGTCGGGTGGGGAAGGAGGCCCAGACTCTGCTTCGGCCATGA TTTGTGACTGCCCAGGACTCTCAGGTTGGGCTGGCCCTACTCAGGATTACACTGAAAGTAATGGCCTCGTAAGTA CAGGTGATGGTTTTGGACACGTCAGGAATTCCTAAAGGCTGAAAGAGTGTATCCAAGTAAGGTCTGAACCTCCGA TGTCTGCATATACACACGGGGAATGCCAGAAGAAGGCCCAGTCTGCACCAGGCGTCTGGTCAACTTAGCACAAGG GCAGTGCCTGGACGGACCCGGAGCCCCCGCATATCAGCAGTTCACCCAGTACTCCTCAGAGACTGGTTTCCCTCT AAACCCATCCCGGGCACATACCACCCGTGTTTTGCATGTATTTCTCATTTCATTTTAGGGATGACAAACATTTGT GAAACCAGTGAGAGAGGCTTGATGTGTATAAAAGACGTGATGTGCACCACCTCGATCTCGGTGTTTCAGGCACT AAAGCAACAAACCATAGTATCTCATTCTGTCATCAGATCCAGAAGAAATATCCTGGTTTTCCAGCATGTT TACCCACATGTTTTGGCCATGGATAAAGTGAAGAGGCCTACTCACCATTATCCCTGCAGCGTGACACCTTTTGAT TGTCACTGACCACTCAGAAGGGGCCACGGCCTCCTGGCTGTTCCTGAGCCCCCGTCGTGCCTCTCCCAGACAG CAGCTGTCTGGCCCTTGCTGGGTGAGGGCACACCACTGCCAGGGGTCAGCCTCGCACCCAGGCCAGGCAGAAGCT GTGCTCTGAAGCTAGGACAGCTGGCTGAGAAGTGGGTTCAGGCGAAGGGTGAAGCCATGTGTAGCAGTTCCTGCC AGTGCAGATCTGGAGAGGAGCTGGCCGGAAGGCGTGGTTGTGAAAGCGCCCTTCTTATGTTAGGAGGCCTTGGC AAAATTGGATTTCTTCAAAAATACATGTAAAGGTCTGTTGTTGAATTGTACTCTGCCCCTGGAAGCAGATACAGA TGGCTGCTGCTGCTCGCTTTTGCTTTTCCCACCGTGTTTTCATCTTTGTTCACTTGAGGCTTTCCCCA GCTGGTGTGCAGGACAGTTCATGGTAATGTTGCCCTCTGAGGCCCCGTACACCAGAAGGGAGGCCCTGGAAAA TTTTGTGCTTCCAACGTGGCCTTCAATTCTTGCTTTTTTGCCCCTCGGAAGCATGGGGCTTTTGAGCACACTTAA AAAAAGAAAA

GAAAAACAAAAAGAATCTTTGTTTTACCCCGAAAGAGAGGCAGAGGCAGAAAGTCTTCTTCTGCTTTTTGCATCT TTCCCTCAGCTAGAGGAGTCTCAGTGTGTCTGAGAAAATGGCAGTCAGCCATCCAGGATTTTAGGAGCAACGCCA CTGCTCTGTGCCACATCAGAAATCAGGCATGGCCCCAACCTGAAGGAACTTGTAGCTTAATGGGGAAGCACCA AGAATAAAAGAGCCTCCAGAACATGTGGTGCCTGTGGTCCTGAGACAGCAGGAAATGGCTCTCAGGCCAGAGTTG CTGGAAGAACCCATGTGGCAGGATCGGTGGGAGGCAGTTACAGAGGGAAACGCCCATCCCAGCAACTAGGGGAGG CCGCCACTCCTCGTGGATGGATGATATTCTTGCTTGGGGATGTTGAGACAGCTGCACTCTGCATAGTTCCTGA TTTGCCTCTCTACTGCTGATGAAAACCTCTCTTTCTCTATAGCTGCTGCTTATATTGGAAGGCTTTTGGTTATT CAGCACACTCACTCCTGAGCTTATTTCAGTGATATTCCTTGGTTATTTCGAAACATGGATGCTTGTGGCAGATGG TGGACCACGAAAGAAAATTATACTGACAGCTTCCAGGGTAGGGGGCAGTTGTAGCTTTCTGCAGATGTTGCCAAA TATATTGGGGGTGGGGAGCAGCAAATGCCATGTGTTGCTTTTTATGACATAAGGAGGGATTCCACCCCCATCCCA ATAAAATCGGTGCTTTGACAAAGGAGGGTTCCCAGGCAGCTAAGAGAACCCAGAGTAGATGATCCTCTTTATCTC TGGTTTAACCTGTGACTAGGATTCTTGGTGTAAGCTCGGCTTTTCCACTTATCCTCTAACCGGAACAGGCTTCTA TAATCTCTTTGCCTTAAAATAATTATCTGCATCCCTGTGTAGAGCAATCTTAAGCAGCTCTCCTTGTTTCTTCAG GGAATGGGAATTCTTTTCTAAGTCGCCCCATCAAAGGTACTATTGGTTTTTTACAACGCCGGCGTTTGTGTATGT AGTAAAAGTATTAACAGCATTAAAGGCGATATTTTTAACATGTTTATAGATACTACTTGGGGGAGGGCAGCTAAT CACACCCAGTTGAATTCAGCCAGGATTTATTGAGTTGGCATCACAGACGCTGACAGCCTCCAAGTGAAAACCCTT CTCTTGAATATGTACAGGTTTCCCATCCACATACCAAGCTGATGAGGATCCCATCGTTCTTCCCCAGTCCTGAGG AGCCCCCCCCGCCATCTGCACCTTCCATAGCCAAATCAGGGTCATTGGACTCAGAACTTTCAGTGTCCCCAAAAA GACCAGAAGGGCAGAGCCAGGCCCTGCGTCCACCTCTGCCTCTACCCGCCTGTTTGGGTTAACAAAGCCAAAGG AAAAGAAGG .

4676/6881 FIGURE 4311A

TCTGTTAAATGTTCCGAAGCCACTGCCAAAACAACTGTGGGAGACCAAGGAGATTCAGTCCCTGTCAGGACGCCC TCGATCCTGTGATGTTGGAGGTGGCAATGCTTTTCCACATAATGGTCAAAACCTAGGCCTCTCACCCTTCTTGGG CACCACCGACCACTTTGGCAGTATGAGTGTGGGGAATAGTGTGAACAACATCCCAGCTGCTATGACCCACCT GCTTTCCTCTTCCTTAAATAACCACCCACAGACATCTGTTCCCAACGCATCTGCTCTTCACCCTTCGCTCCGTCT GTTTTCCCTTAGCAACCCATCTCTTTCCACCACAAACCTGAGCGGCCCGTCTCGGCGTCGGCAGCCTCCCGTCAG CCCTCTCACGCTTTCTCCTGGCCCTGAAGCACATCAAGGTTTCAGCAGACAGCTGTCTTCAACCAGCCCACTGGC CCCATATCCTACCTCCCAGATGGTGTCCTCAGACCGAAGCCAACTTTCCTTTCTGCCCACAGAAGCTCAAGCCCA GGTGTCGCCGCCACCCCCTTACCCTGCACCCCAGGAGCTCACCCAGCCCCTCCTGCAGCAGCCCCGCGCCCCTGA GGCCCCTGCCCAGCAGCCCCAGGCAGCCTCCTCACTGCCACAGTCAGACTTTCAGCTTCTCCCGGCCCAGGGCTC ATCTTTGACCAACTTCTTCCCAGATGTGGGTTTTGACCAGCAGTCCATGAGGCCAGGCCCTGCCTTTCCTCAACA GGTGCCTCTGGTGCAACAAGGTTCCCGAGAACTGCAGGACTCTTTTCATTTGAGACCAAGCCCGTATTCCAACTG CGGGAGTCTCCCGAACACCATCCTGCCAGACTCCAGCACCAGCCTGTTCAAAGACCTCAACAGTGCGCTGGCAGG CCTGCCTGAGGTCAGCCTGAACGTGGACACTCCATTTCCACTGGAAGAGGAGCTGCAGATTGAACCCCTGAGCCT GGACGGACTCAACATGTTAAGTGACTCCAGCATGGGCCTGCTGGACCCCTCTGTTGAAGAGACGTTTCGAGCTGA CAGACTGTGAACAGAAGGCAGTGGAACAGAAGAATGTTTTTCTGCAACAGCCAAAATAGAATGGAATAGAATGAA ATCCCATCTCAGACACTGTGGCTTCCTCCAGATCACACGCTTTGTACTGCCTCTCCCGCCTGTGGCCAAAGTCG TGTTGCAGCAGGCAGGCTTGCAGCTTCCCATGAACTGGAAAGCTCACCTCCACTGCATCTTTTACTGGCCA TCCAGTCAGCCGATGTGTAAGAGTAGGAAATACTGTGTCACTGGAGGCCTCCGTAGCATTGTGTAGTGTGCTCAG AACCACTGATCTCCGTCCGCACCGAAGGCGGCCCGGAGTGGGAGGCTCGGCCTGGGGCGGCGCACCGGAGAGG GCACCTCGATGCCTGCTCTGACCTGACCCAGAGGGCGGGGCCCTCCAGCGGGGGACATTCCCAGGCTGAGTGGAC CCCACGCTCTCCCCACGCCTGGATTACGACATGAAGTTTTTACCACAAGCCCGAGGGCAGGCTTGAGTTAGGC AGACTGAAGGCTAATTTTCATTTTCTCCCAGCTGGTTTCTGCTGCTTCAGAAAAGTACACCTTTTCCTTATGGAC CAGAGGAAGAGACCATTTTATCAGTCACTGAAAAGAGTCCCCTGGCACTGATGAGCCTGAAGAGAACTGTG CTCCTCCTCGGGGGCTGGGGAAGGAAGACAGGGACTGCAGGTGTCTCATACTCAGTGGCCTCCAGACAAACTCCA AGCTTCCCCATCCCTCCCCAGAGCTGTGTCTCTGTGGGCTGGGAGTCTAATGTCACCCCCCTAGACCGTAAGCTC ACCTGTAGCTATCCCCTTCCCTGCCAGATCTTCTCAGAGCTTTAGCTTTTCTAGCACTCGTGCCTATGGTGAAGC ATGCACTTTAATATGCTTTTAACACTAGGTGACCAAATCACAGTGAAGCCGGGCACTGCATTCTCCTTGGGCTGT GCTCCACGCGGTGGGTGGGAGCTGTCTTCTGAGTACATCCGGAAGGGCTGAGCAGGTGAGTGCCCTGAGCATCC TGGCTGGGCCCCACCCAGGAAGATCTTCCTTCTCAGATCCACGTTTGGCTCTAAATTGCTTCAAGTAGAGATTCA TTCTTTGAGGTTGAAAAAATAGTTTATAGTAAAACGAAGGCCTAATTCATGGAAGCATCATTAGTCATCAATACC TTCTCATAAAATAGATGGGCCAGATTTCCACCACCGCCTCCTCTAACTTGGGTGATGCCAGTAGGTTTGAA GGGGGCAGAGCATTGCAGGGGGGGGGGGGGTCTAGGCTGTGAGAGGACAGGGTGGAGAGGAGGAGAACCCTGAA GGAGAGACGGAAGATGCCAGGACCTTTGCTTGGACAGCCATTGCCCTTCCAGGAGACCCTGGAGTGTACTGAGGG TTGCTGGACTGTTCCACCCAGAGGAGCAAGGCTGTACAATGAGGGTCTGAATCTGGCACACCTGTCCCTTATGTA AAAGGAGTCGTGGTCACAAGACCCTGGGCTGGTTAGCCTCTCCCGACCTCATTCCATTTCTATCTTCTGACCTTG CCTCTCATCTTTAAAATAACCCTCATGGGGTGCCCCTCCACCTTCCTCTGGAATCCAAGTATTCCTGTTTCACAT TTGCCCCAAATCTTTGCTGTGGAATTGGGAAATCAAACCAGAGTCCTCCTCGCCTGATTTCCAGCTCAGGAAGGG CCTGCTGGCCTGCCCTGTTCCCAGTTACACTTTCAGATCCCTTTGTGCTCAAGATCTCAGAGGGGGTGGCTTTTT GTTAAAGAGCCTTCAGTCGCAATGCTACCCAGCACCCCATGTGCCAAAAGAAACCAGCTCCTGTGTCAAAGGGCT TCCAAACCTGATCTCACTCTCAACAGGCGATGGTGCTGATGTTTCAAGAATTGTGTTTTTATAAAACAGAGGTCT CAGCATAGTCACTCTTCACATAGTGCCTTACCCATGGGTATCGTCATATCCGGGTCCCAGTTCAGTTTGTCTGCA CAGCAGCCACCCTGCCTGGCAACAGAGCCCCAAGACCTACACAGTGAACCCTACTGCCCCAAAGGCGTTCTCCA

FIGURE 4311B

WO 2004/030615 PCT/US2003/028547

4678/6881 FIGURE 4312

TTTTTCTGGTAGAAGGCGGGGTTCTCCTCGTACGCTGCGGAGTCTCTGCGGGGTGTAGACCGGAATCCTGCTGAC GGGCAGAGTGGATCAGGGAGGGAGGGTCGAGACACGGTGGCTGCAGGTCTGAGACAAGGCTGCTCCGAGGTAGTA GCTCTCTTGCCTGGAGGTGGCCATTCATTCCTGGAGTGCTGCTGAGGAGCGAGGGCCCATCTGGGGTCTCTGGAA ATTCATTGAGGCAGATCTCATGAGCCCTTTGGATCGAATTGCCAATGTCTCCATCCTGAAGCAACACGAAGTAGA CAAGCTATACAAGGTGGAGAACAAGCCAGCCCTCAGCTCCAATGAACAATTGTGCTTCTTGGTCAGACCCCGCAT CTTCAGCCCTCAAAAGTTCTATGCGTGTGAGATGGTGCTTGAGGAAGAGGGGAATCTATGGAGATGTGAGCTGTGA TGAATGGGCCTTCTCTTTGCTGCCTCTTGATGTGGATCTGCTGAGCATGGAACTACCAGAATTTTTCAGGGATTA CTTTCTGGAAGGAGCATCAGCGTTGGATCAACACTGTAGCTCAGGCCTTACACCTTCTCAGCACTCTCTATGGACC CTTTCCAAACTGCTATGGAATTGGCAGGTGCGCCAAGATGGCATATGAATTGTGGAGGAACCTGGAGGAGGAGGA GGATGGCGAAACCAAGGGCCGAAGGCCAGAGATTGGACATATCTTTCTCTTGGACAGAGATGTGGACTTTGTGAC AGCACTTTGCTCCCAAGTGGTTTATGAGGGCCTAGTAGATGACACCTTCCGCATCAAGTGTGGGAGTGTCGACTT TGGCCCAGAAGTCACATCCTCTGACAAGAGCCTGAAGGTGCTACTCAATGCCGAGGACAAGGTGTTTAATGAGAT TCGGAACGAGCACTTCTCCAATGTCTTTGGCTTCTTGAGCCAGAAGGCCCGGAACTTGCAGGCCCAGTATGATCG CCGGAGAGGCATGAACATTAAGCAGATGAAGAATTTCGTGTCCCAGGAGCTCAAGGGCCTGAAACAGGAGCACCG CCTGCTGAGTCTCCATATTGGGGCCTGTGAATCCATCATGAAGAAGAAAACCAAGCAGGATTTCCAGGAGCTAAT CAAGACTGAGCATGCACTGCTAGAGGGGTTCAACATCCGGGAGAGCACCAGCTACATTGAGGAACACATAGACCG GCAGGTGTCGCCTATAGAAAGCCTGCGCCTCATGTGCCTTTTGTCCATCACTGAGAATGGTTTGATCCCCAAGGA TTACCGATCTCTGAAAACACAGTATCTGCAGAGCTATGGCCCTGAGCACCTGCTAACCTTCTCCAATCTGCGAAG AGCTGGGCTCCTAACGGAGCAGGCCCCCGGGGACACCCTCACAGCCGTGGAGAGTAAAGTGAGCAAGCTGGTGAC $\tt CGACAAGGCTGCAGGAAAGATTACTGATGCCTTCAGTTCTCTGGCCAAGAGGAGCAATTTTCGTGCCATCAGCAA$ AAAGCTGAATTTGATCCCACGTGTGGACGGCGAGTATGATCTGAAAGTGCCCCGAGACATGGCTTACGTCTTCAG TGGTGCTTATGTGCCCCTGAGCTGCCGAATCATTGAGCAGGTGCTAGAGCGGCGAAGCTGGCAGGGCCTTGATGA GGTGGTACGGCTGCTCAACTGCAGTGACTTTGCATTCACAGATATGACTAAGGAAGACAAGGCTTCCAGTGAGTC ${\tt CCTGCGCCTCATCTTGGTGGTGTTCTTGGGTGGTTGTACATTCTCTGAGATCTCAGCCCTCCGGTTCCTGGGCAG}$ GGTGAAAGCC<u>TGA</u>TGTTTTTCCCGGCCAGTGTTGACATCTTCCCTGAACACATTCCTCAGTGAGATGCAGGCATC TGGCACCCAGCTGCTATAACCAAGTGTCCACCAACTACCTGCTAAGAGCCGGGAGCATGGAACGTGTTGGGATTT AGAGAACATTATCTGAGAAAAGAGTTCACTTCCTGCTCCCAGGATATTTCTCTTTTCTGTTTATGAAGTACAACC TGCTCTCAGATGTAAAAAAAAAAAAAAAAAAAAAAAA

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MAFPHRPDAPELPDFSMLKRLARDQLIYLLEQLPGKKDLFIEADLMSPLDRIANVSILKQHEVDKLYKVENKPAL
SSNEQLCFLVRPRIKNMRYIASLVNADKLAGRTRKYKVIFSPQKFYACEMVLEEEGIYGDVSCDEWAFSLLPLDV
DLLSMELPEFFRDYFLEGDQRWINTVAQALHLLSTLYGPFPNCYGIGRCAKMAYELWRNLEEEEDGETKGRRPEI
GHIFLLDRDVDFVTALCSQVVYEGLVDDTFRIKCGSVDFGPEVTSSDKSLKVLLNAEDKVFNEIRNEHFSNVFGF
LSQKARNLQAQYDRRRGMDIKQMKNFVSQELKGLKQEHRLLSLHIGACESIMKKKTKQDFQELIKTEHALLEGFN
IRESTSYIEEHIDRQVSPIESLRLMCLLSITENGLIPKDYRSLKTQYLQSYGPEHLLTFSNLRRAGLLTEQAPGD
TLTAVESKVSKLVTDKAAGKITDAFSSLAKRSNFRAISKKLNLIPRVDGEYDLKVPRDMAYVFSGAYVPLSCRII
EQVLERRSWQGLDEVVRLLNCSDFAFTDMTKEDKASSESLRLILVVFLGGCTFSEISALRFLGREKGYRFIFLTT
AVTNSARLMEAMSEVKA

FIGURE 4315

GGCACGAGGGGCGTTTCCTCCAAGGCTGCCCACAGAAGGACCTGCCCGAGAGGGTAGAGGCATAGGGTCAAGA ${\tt TCAAGATAAGGCAGCTCCAGCCCTGGAAGGCCAGAGACTTGCCAGTGTCCCACTAGCGGCTCTTCGCAAGAAT}$ CCCCCGGGCCCGCCGCAGCCAGGCGGCGGCCGGCAGAGGGCGCTGCTCGGGCATGGCGGAGGAGCGGCCGGGGG GTCCGCTGCGGCGGGCGTCGACATCTGCCGCGTGAGCGCGAGCTGGAGCTACACCGCTTTCGTGACCCGTGAGC ACTCCCCGCCCCGTCCCCACTTATTCCAGCCGCGCTCCCCAGTCGCCTCCCCGCACCGCTGTGGCCAGTCCAGTT TGTCTCCCCGTTCAGGCCGCCAGCCCCACATTCTGGGTTGGTCCCCAATTCGACCCCTTCCCAGGAACACCCCG $\verb|CTCCCCCATCCCGCCGCCTCCATTCTGGCCACCCTGCTCCAATCCGCCCCGCAGGTGGAGGCCGCTTGGAGCT|\\$ GTCGGGCTCAGCCAGCGGCGCGGGGCCGCTGCAAGGACGCGTGGGCCTCGGAGGGGCTCCTCGCGGTGCTGCG GCCCTGCGCCCGTGCCTACGTGAGCCCGCGGGCGCCCTTCTACCGGCCTCTGGCTCCGGAGCTGCGGGCACGCCA $\tt TGGACAGCTGGGCCATGGGGCCCTGGAGGCAGAGCTGGAGCCACGGCTGTTGGAGGCGTTGCAGGGCCTAGTC{\color{red} ATCAMCAGGCCTGGAGGCCAGGCCTGGAGGCCTGGAGGCCAGGCCTGGAGGCCTGGAGGCCTGGAGGCCTGGAGGCCTGGAGGCCAGGGCCTGGAGGCCAGGGCCTGGAGGCCAGGGCCTGGAGGCCAGGGCCTGGAGGCCAGGGCCTGGAGGCCAGGGCCTGGAGGCCAGGGCCTGGAGGCCAGGGCCAGGGCCTGGAGGCCAGGGCCTGGAGGCCAGGGCCTGGAGGCCAGGCCAGGCCTGGAGGCCAGGCCTGGAGGCCAGGCCTGGAGGCCAGGCCTGGAGGCCAGGCCTGGAGGCCAGGCCTGGAGGCCAGGCCTGGAGGCCAGGCCTGGAGGCCAGGCCTGGAGGCCAGGCCTGGAGGCCAGGCCTGGAGGCCAGGCCTGGAGGCCAGGCCTGGAGGCCAGGCCTGGAGGCCAGGCCTGGAGGCCAGGCCTGGAGGCCAGGCCTGGAGGCCAGGCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGC$ TGAATCAGGGCAGCTGGCCCTGCCCACCAGGAACCTGGCAGAGGATGGAGAGACTGTCGCAAGGGAAGCCACAGA ACTGAATGAAGATGGTTCTCAGGTGAAGAGAACGGGTGGGGCTGAGGATGGAGCCCCTTCCATAGCTGT $\verb|CCAGCCCTTCCCGGCATTACTGGATCTCCCCATGGGCTCAGATGCAGTCAAGGCCAGCTGTGGATCCCGGCACAC| \\$ AGCTGTGGTGACACGAACAGGGGAGCTCTACACCTGGGGCTGGGGTAAATATGGACAGCTGGGCCACGAGGACAC CACCAGCTTGGATCGGCCTCGCCGTGTGGAATACTTTGTAGATAAGCAACTCCAAGTAAAGGCTGTCACCTGTGG GCCGTGGAACACCTACGTGTATGCTGTGGAGAAAGGGAAGAGCT<u>GA</u>CATGTGTACGTATATGTATATGCAACACC TGTGAGACCCCCATTCAGGTCAAGGAAAACCATTGCCTGCACCCCAAGGGCCCCATATTTGCCCCTCCCCATCAC AGTCCTGCCCTTCACCCTCAAGCACGGTCCTAAACTTGTCTGCACTTTAGAAACACCTGGAGAGCATTGAAAACT CTGCTGCCTAAGGTCAGCATCAAACAATGAAACAATGAAACAATGAAACCAGAGCTTCTAGGTGTGTGG CCTGGATAGTGGTAGATTCAAAGCTCCACCCACCTCATCCCAGGTACATTTGATGTGCAGCTGAGATTGGGGCAC ATTCCAGGTCATCGTCTGTCAGTCATTTCCCTGCTTTCGTTTGAATTTTACCATTCTTGTATGCAGCCTTAT ACGACATAGTTGTGTTTTGCTTTTGAGTGTTAGATAAATGGAATCCTGTGTATGTGCTTTTTGTGTCGTTTTTGTCA CTCAGCATTGTATAATCCATCCTTGTTGGGTCCTGGAGTTCATTTTTAATGCTATATGGTGTTCTGTTGTATGAA TAATACCTCAAGTGATACAAAAAAAAAAAAAAAAAAAA

FIGURE 4316

MAEVAAGGWHSVCVSETGDIYIWGWNESGQLALPTRNLAEDGETVAREATELNEDGSQVKRTGGAEDGAPAPFIA VQPFPALLDLPMGSDAVKASCGSRHTAVVTRTGELYTWGWGKYGQLGHEDTTSLDRPRRVEYFVDKQLQVKAVTC GPWNTYVYAVEKGKS

FIGURE 4317

CGCCCGCGGCCGAGGTGGACGGAGCCTCCCGGCTGCTCCCGCCGGCGGAGCGAGGCTGCCCTTTCTTCGCA GCGTGATTTATTTTCTTCTTTTTTTTCTGAACTCTTCTTCCAGGGAGAGGCTAGTGGTAACAGGCCGAGCTGGATG $\verb|CCCCGCAGCCACCTCCCCGTGCAAGATCCTCAAGTGCAACTCTGAGTTCTGGAGCGCCACGTCGGGCAGCCACGC|\\$ CCCAGCCTCAGACGACACCCCCGAGTTCTGTGCAGCCTTGCGCAGCTACGCCCTGTGCACGCGGCGGACGGCCCG CACCTGCCGGGTGACCTGGCCTACCACTCGGCCGTCCATGGCATAGAGGACCTCATGAGCCAGCACAACTGCTC $\tt CCCCGAGATCTGCCATTACGAGAGAGGCTTTCACAAGCACTCGGCCACCCCCAACTACACGCACTGTGGCCTCTT$ CGGGGACCCACACCTCAGGACTTTCACCGACCGCTTCCAGACTTGCAAGGTGCAGGGCGCCTGGCCGCTCATCGA CAATAATTACCTGAACGTGCAGGTCACCAACACGCCTGTGCTGCCCGGCTCAGCGGCCACTGCCACCAGCAAGCT CACCATCATCTTCAAGAACTTCCAGGAGTGTGTGGACCAGAAGGTGTACCAGGCTGAGATGGACGAGCTCCCGGC CGCCTTCGTGGATGGCTCTAAGAACGGTGGGGACAAGCACGGGGCCAACAGCCTGAAGATCACTGAGAAGGTGTC AGGCCAGCACGTGGAGATCCAGGCCAAGTACATCGGCACCACCATCGTGGTGCGCCAGGTGGGCCGCTACCTGAC CTTTGCCGTCCGCATGCCAGAGGAAGTGGTCAATGCTGTGGAGGACTGGGACAGCCAGGGTCTCTACCTCTGCCT GCGGGGCTGCCCCTCAACCAGCAGATCGACTTCCAGGCCTTCCACACCAATGCTGAGGGCACCGGTGCCCGCAG GCTGGCAGCCGCCAGCCCTGCACCCCACAGCCCCCGAGACCTTCCCATACGAGACAGCCGTGGCCAAGTGCAAGGA GAAGCTGCCGGTGGAGGACCTGTACTACCAGGCCTGCGTCTTCGACCTCCTCACCACGGGCGACGTGAACTTCAC ACTGGCCGCCTACTACGCGTTGGAGGATGTCAAGATGCTCCACTCCAACAAGACAAACTGCACCTGTATGAGAG GACTCGGGACCTGCCAGGCAGGCGGCTGCGGGGCTGCCCCTGGCCCCCCGGCCCCTCCTGGGCGCCCTGGTCCC GCTCCTGGCCCTGCTCCCTGTGTTCTGC<u>TAG</u>ACGCGTAGATGTGGAGGGAGGCGCGGGCTCCGTCCTCTGGGCTT CCCCATGTGTGGGCTGGGACCGCCCACGGGGTGCAGATCTCCTGGCGTGTCCACCATGGCCCCGCAGAACGCCAG GGACCGCCTGCTGCCAAGGGCTCAGGCATGGACCCCTCCCCTTCTAGTGCACGTGACAAGGTTGTGGTGACTGGT TGAAACATCCCCTCAGGCTGAAGCCCCCCACCCCACCAGAGACACACTGGGAACCGTCAGAGTCAGCTCCTTCC CCCTCGCAATGCACTGAAAGGCCCGGCCGACTGCTGCTCGCTGATCCGTGGGGCCCCCTGTGCCCGCCACACGCA CGCACACACTCTTACACGAGAGCACACTCGATCCCCCTAGGCCAGCGGGGACACCCCAGCCACACAGGGAGGCAT ${\tt CCAGTAGGTCGTGCCCTGTGCCTTCTGGCCTGTGGCCTCCCTGCCCATGTTCACCTGGCTGCTGTGGGTAC}$ CAGTGCAGGTCCCGGTTTTCAGGCACCTGCTCAGCTGCCCGTCTCTGGCCTGGGCCCCTGCCCCTTCCACCCTGT TGCAGATGCAAGAGCTCCTGGGCAGGGTGCCTGGGCCCCAGGGTGTGGCAGGAGACCCAGTGGATGGGCCCAGC GGGGAGAGGAGCAGGGTCTTAGGACTCTCAGCTCTGAGCATCCCTGGCAGGGTCTTCAACCTCTAATCTCTTCCC TTAAGCCCTGTGGCCACACAGCCAGGAGAGACTTGCCGCTGGCTCCCGCCTCATTTCAGCCCAGGGTGCTCATCC AGGGGCCCAGAACAGTCCCACCTGTGCTGCTATGCCCACAGCACAAAGCCAGGCTTCACTCCCAAAAGTGCAGCC AGGCCCTGGAGGGTGATCCTGCCAGCAGCCCTACAGCTCCACACCCTACCCCATCGGCAGCCCCTCTGCTGT GTTGGTCCCTATGTTGGAAGTAAAAAGTGAAGCACTTTATTTTGGTTGTTTTGCTCACGTTCTGCTTGGAAGTG TAATGGCTAAATGCAAGTAAAGTTTGGTTTTTTTGTT

MGMGRGAGRSALGFWPTLAFLLCSFPAATSPCKILKCNSEFWSATSGSHAPASDDTPEFCAALRSYALCTRRTAR TCRGDLAYHSAVHGIEDLMSQHNCSKDGPTSQPRLRTLPPAGDSQERSDSPEICHYEKSFHKHSATPNYTHCGLF GDPHLRTFTDRFQTCKVQGAWPLIDNNYLNVQVTNTPVLPGSAATATSKLTIIFKNFQECVDQKVYQAEMDELPA AFVDGSKNGGDKHGANSLKITEKVSGQHVEIQAKYIGTTIVVRQVGRYLTFAVRMPEEVVNAVEDWDSQGLYLCL RGCPLNQQIDFQAFHTNAEGTGARRLAAASPAPTAPETFPYETAVAKCKEKLPVEDLYYQACVFDLLTTGDVNFT LAAYYALEDVKMLHSNKYKLHLYDRTRDLPGRAAAGLPLAPRPLLGALVPLLALLPVFC

AGCCGGTGCGCCGCAGACTAGGGCGCCTCGGGCCAGGGAGCGCGGAGGAGCCATGGCCACCGCTAACGGGGCCGT GGAAAACGGGCAGCCGGACAGGAAGCCGCCGGCCCTGCCGCGCCCCATCCGCAACCTGGAGGTCAAGTTCACCAA GATATTTATCAACAATGAATGGCACGAATCCAAGAGTGGGAAAAAGTTTGCTACATGTAACCCTTCAACTCGGGA GCAAATATGTGAAGTGGAAGAAGGAGATAAGCCCGACGTGGACAAGGCTGTGGAGGCTGCACAGGTTGCCTTCCA GAGGGACCGCCCCCTGGCCCCCTGGAGACGATGGATACAGGGAAGCCATTTCTTCATGCTTTTTTCATCGA CCTGGAGGGCTGTATTAGAACCCTCAGATACTTTGCAGGGTGGGCAGACAAAATCCAGGGCAAGACCATCCCCAC AGATGACAACGTCGTGTGCTTCACCAGGCATGAGCCCATTGGTGTCTGTGGGGCCCATCACTCCATGGAACTTCCC CCTGCTGATGCTGGTGTGGAAGCTGGCACCCGCCCTCTGCTGTGGGAACACCATGGTCCTGAAGCCTGCGGAGCA GACACCTCTCACCGCCCTTTATCTCGGCTCTCTGATCAAAGAGGCCGGGTTCCCTCCAGGAGTGGTGAACATTGT GCCAGGATTCGGGCCCACAGTGGGAGCAGCAATTTCTTCTCACCCTCAGATCAACAAGATCGCCTTCACCGGCTC CACAGAGGTTGGAAAACTGGTTAAAGAAGCTGCGTCCCGGAGCAATCTGAAGCGGGTGACGCTGGAGCTGGGGGG GAAGAACCCCTGCATCGTGTGCGGACGCTGACTTGGACTTGGCAGTGGAGTGTGCCCATCAGGGAGTGTTCTT CAACCAAGGCCAGTGTTGCACGGCAGCCTCCAGGGTGTTCGTGGAGGAGCAGGTCTACTCTGAGTTTGTCAGGCG GAGCGTGGAGTATGCCAAGAAACGGCCCGTGGGAGACCCCTTCGATGTCAAAACAGAACAGGGGCCTCAGATTGA CTCAGCCATGGAAGACAAGGGGCTCTTCATCAAACCCACTGTCTTCTCAGAAGTCACAGACAACATGCGGATTGC TAGCACCGACTATGGACTCACAGCAGCCGTGTTCACAAAAAATCTCGACAAAGCCCTGAAGTTGGCTTCTGCCTT AGAGTCTGGAACGGTCTGGATCAACTGCTACAACGCCCTCTATGCACAGGCTCCATTTGGTGGCTTTAAAATGTC AGGAAATGGCAGAGAACTAGGTGAATACGCTTTGGCCGAATACACAGAAGTGAAAACTGTCACCATCAAACTTGG CGACAAGAACCCCTGAAGGAAAGGCGGGGCTCCTTCCTCAAACATCGGACGGCGGAATGTGGCAGATGAAATGTG CTGGAGGAAAAAATGACATTTCTGACCTTCCCGGGACACATTCTTCTGGAGGCTTTACATCTACTGGAGTTGAA TGATTGCTGTTTTCCTCTCACTCTCCTGTTTATTCACCAGACTGGGGATGCCTATAGGTTGTCTGTGAAATCGCA GTCCTGCCTGGGGAGGGAGCTGTTGGCCATTTCTGTGTTTCCCTTTAAACCAGATCCTGGAGACAGTGAGATACT CAGGGCGTTGTTAACAGGGAGTGGTATTTGAAGTGTCCAGCAGTTGCTTGAAATGCTTTGCCGAATCTGACTCCA GTAAGAATGTGGGAAAACCCCCTGTGTGTTCTGCAAGCAGGGCTCTTGCACCAGCGGTCTCCTCAGGGTGGACCT GCTTACAGAGCAAGCCACGCCTCTTTCCGAGGTGAAGGTGGGACCATTCCTTGGGAAAGGATTCACAGTAAGGTT TTTTGGTTTTTGTTTTTCTTGTTTTTAAAAAAAGGATTTCACAGTGAGAAAGTTTTGGTTAGTGCATAC CGTGGAAGGGCGCCAGGGTCTTTGTGGATTGCATGTTGACATTGACCGTGAGATTCGGCTTCAAACCAATACTGC CTTTGGAATATGACAGAATCAATAGCCCAGAGAGCTTAGTCAAAGACGATATCACGGTCTACCTTAACCAAGGCA CTTTCTTAAGCAGAAAATATTGTTGAGGTTACCTTTGCTGCTAAAGATCCAATCTTCTAACGCCACAACAGCATA GCAAATCCTAGGATAATTCACCTCCTCATTTGACAAATCAGAGCTGTAATTCGCTTTAACAAATTACGCATTTCT ATCACGTTCACTAACAGCTTATGATAAGTCTGTGTAGTCTTCCTTTTCTCCAGTTCTGTTACCCAATTTAGATTA GTAAAGCGTACACAACTGGAAAGACTGCTGTAATAACACAGCCTTGTTATTTTTAAGTCCTATTTTGATATTAAT TTCTGATTAGTTAGTAAATAACACCTGGATTCTATGGAGGACCTCGGTCTTCATCCAAGTGGCCTGAGTATTTCA CTGGCAGGTTGTGAATTTTCTTTTCCTCTTTGGGGATCCAAATGATGATGTGCAATTTCATGTTTTAACTTGGG ACTAGTACTTTCCTAATTGGGAAAGTAGTGCTTAAGTTTGCAAATTAAGTTGGGGAGGGCAATAATAAAATGAGG GCCCGTAACAGAACCAGTGTGTGTATAACGAAAACCATGTATAAAATGGGCCTATCACCCTTGTCAGAGATATAA ATTACCACATTIGCCTTCCCTTCATCAGCTAACACTTATCACTTATACTACCAATAACTTGTTAAATCAGGATTT GGCTTCATACACTGAATTTTCAGTATTTTATCTCAAGTAGATATAGACACTAACCTTGATAGTGATACGTTAGAG TATCTTTTTATAGTTGTAAGTACACAGAGGTGGTATATTTAAACTTCTGTAATATACTGTATTTAGAAATGGAAA TATATATAGTGTTAGGTTTCACTTCTTTTAAGGTTTACCCCTGTGGTGTGGTTTAAAAATCTATAGGCCTGGGAA TTCCGATCCTAGCTGCAGATCGCATCCCACAATGCGAGAATGATAAAATAAAATTGGATATTTGAGA

MVKLTAELIEQAAQYTNAVRDRELDLRGYKIPVIENLGATLDQFDAIDFSDNEIRKLDGFPLLRRLKTLLVNNNR ICRIGEGLDQALPCLTELILTNNSLVELGDLDPLASLKSLTYLSILRNPVTNKKHYRLYVIYKVPQVRVLDFQKV KLKERQEAEKMFKGKRGAQLAKDIARRSKTFNPGAGLPTDKKRGGPSPGDVEAIKNAIANASTLAEVERLKGLLQ SGQIPGRERRSGPTDDGEEEMEEDIVTNGS

 ${\tt TCGGAGAGCTTTGGGGTGGCCGGTTTGTGGGTGCAGTGGACCCCATCATGGAGAAGTTCAACGCGTCC}$ ATTGCCTACGACCGGCACCTTTGGGAGGTGGATGTTCAAGGCAGCAAAGCCTACAGCAGGGGCCTGGAGAAGGCA GGGCTCCTCACCAAGGCCGAGATGGACCAGATACTCCATGGCCTAGACAAGGTGGCTGAGGAGTGGGCCCAGGGC ACCTTCAAACTGAACTCCAATGATGAGGACATCCACACCCAATGAGGCCCGCCTGAAGGAGCTCATTGGTGCA ACGGCAGGGAAGCTGCACACGGGACGGAGCCGGAATGACCAGGTGGTCACAGACCTCAGGCTGTGGATGCGGCAG ACCTGCTCCACGCTCTCGGGCCTCCTCTGGGAGCTCATTAGGACCATGGTGGATCGGGCAGAGGCGGAACGTGAT GTTCTCTTCCCGGGGTACACCCATTTGCAGAGGGCCCAGCCCATCCGCTGGAGCCACTGGATTCTGAGCCACGCC GTGCACTGACCCGAGACTCTGAGCGGCTGCTGGAGGTGCGGAAGCGGATCAATGTCCTGCCCCTGGGGAGGTGG GGCCATTGCAGGCAATCCCCTGGGTGTGGACCGAGAGCTGCTCCGAGCAGAACTCAACTTTGGGGCCATCACTCT CAACAGCATGGATGCCACTAGTGAGCGGGACTTTGTGGCCGAGTTCCTGTTCTGGGCTTCGCTGTGCATGACCCA TCTCAGCAGGATGGCCGAGGACCTCATCCTCTACTGCACCAAGGAATTCAGCTTCGTGCAGCTCTCAGATGCCTA CAGCACGGGAAGCAGCCTGATGCCCCAGAAGAAAAACCCCGACAGTTTGGAGCTGATCCGGAGCAAGGCTGGGCG TGTGTTTGGGCGGTGTGCCGGGCTCCTGATGACCCTCAAGGGACTTCCCAGCACCTACAACAAAGACTTACAGGA ${\tt GGACAAGGAAGCTGTGTTTGAAGTGTCAGACACTATGAGTGCCGTGCTCCAGGTGGCCACTGGCGTCATCTCTAC}$ GCTGCAGATTCACCAAGAGAACATGGGACAGGCTCTCAGCCCCGACATGCTGGCCACTGACCTTGCCTATTACCT GGTCCGCAAAGGGATGCCATTCCGCCAGGCCCACGAGGCCTCCGGGAAAGCTGTGTTCATGGCCGAGACCAAGGG GGTCGCCCTCAACCAGCTGTCACTGCAGGAGCTGCAGACCATCAGCCCCCTGTTCTCGGGCGACGTGATCTGCGT GTGGGACTACGGCCACAGTGTGGAGCAGTATGGTGCCCTGGGCGCACTGCGCGCTCCAGCGTCGACTGGCAGAT CCGCCAGGTGCGGCGCTACTGCAGGCACAGCAGGCCTAGGTCCTCCCACACCTGCCCCCTAATAAAGTGGGCGC GAG

4689/6881 FIGURE 4323A

GCACCAGAAGCCAGCAGTGGGGTTGCACACGCGCCTCTTCACGAGGTGGAAACAAGATGGAGGATTCGGCCTCGG ATAAAGAACAGGTTAGAAAGGCAGTGGACGCTCTCTTGACGCATTGCAAGTCCAGGAAAAACAATTATGGGTTGC CTGAAAAGACAGAACAGTTTTATAGAAAGCTTTTAAACAAGCATGGAATTAAAACCGTTTCTCAGATTATCTCCC TCCAAACTCTAAAGAAGGAATATAAATCCTATGAAGCCAAGCTCCGCCTTCTGAGCAGTTTTGATTTCTTCCTTA CTGTAAACCTTCTGTCCAAGAATTTATCAAGAGAGATCAATGACTGTATAGGTGGAACAGTCTTAAACATTTCTA AAAGTGGTTCTTGCAGTGCTATACGTATTGGTCACGTTTGGAAATTGAGCACATCATTGAAAACATTGTTG CTGTCACCAAAGGACTTTCAGAAAAATTGCCAGAGAAGTGGGAAGCGTGAAACTCCTGTTTGTGAAAACTGAGA AATCGGCTGCACTTCCCATCTTTTCCTCGTTTGTCAGCAATTGGGATGAAGCCACCAAAAGATCTTTGCTTAATA AGAAGAAAAAGAGGCAAGGAGAAAACGAAGAGAAAAGTTTTGAAAAACAAAAGGAGAGAAGAAGAAGAGGGC AGCAGGCTAGGAAGACTGCATCAGTTCTTAGTAAAGATGATGTGGCACCTGAAAGTGGTGATACTACAGTGAAGA AACCTGAATCAAAGAAGGAACAGACCCCAGAGCATGGGAAGAAAAAACGTGGCAGAGGAAAAAGCCCAAGTTAAAG CAACAAATGAATCCGAAGACGAAATCCCACAGCTGGTACCAATAGGAAAGAAGACTCCAGCTAATGAAAAAGTAG AGATTCAAAAACATGCCACAGGAAAGAAGTCTCCAGCAAAGAGTCCTAATCCCAGCACACCTCGTGGGAAGAAAA GAAAGGCTTTGCCAGCATCTGAGACCCCAAAAGCTGCAGAGTCTGAGACCCCAGGGAAAAAGCCCAGAGAAGAAGC AGCCAGAGGCCAAGTTTTTCACCACTCCTAGTAAATCTGTGAGAAAAGCTTCCCACACCCCCAAAAAATGGCCCA TTTTTGGAAATACTCAGATCCTGGCCGCCTTTGTAACCTTCTCTAAACGTCAGGCCTGGACTTAAAAGATTTTTT AATTGGGCATGGTGGTGGACACCTGTAATCCCAGCTACTAGGGAGGCTGAGGCAGGAGAATTGCTTGAACCTGGG TAATAAAACCTCCATAAGTAATCCTGACATATGTTCCTGGGTATAATCTGTTTCTAAATTGTCCTTCTGTGTATT TGCTAATGTAATAGAGGGAAAAATAGAGTGCTTCTCTGTGGTTGTTCAGCACTTTAGGTAGCCAAGGTGAGAGGA TTAGTGTGGCATGGTGCATCTGTGCTCCCAGCTCCTCACGAGGCTGAGGTGGAAGGATCAAGTGAGCGCA AGAGGTTGAGGCTCCAGTGAGCCACGATCACCCCACTGTGCTGTAGCCTGGGTGACAGTGTGAGATTCTGTCTCA GAAAAAACAAAGTATAACATTGCTTTGCTTCTGAGTATACTGTTGGCTTTCCAAATCAGTGGGTCTGACTTGAGG TCTGTGATGTGACCCTTTTCCTCACCTGCTCAACCATTATTCACATGGACTCCATCATATTCATTTGTAGTCATT CCCAGAGTGGCCCAGTGAGGGTCTCGCTGTATGAGAGTCGGCTACGGAATTTAGGAGAAAACAGAAGTTTCTTGGC TTTCATGCTGAGCTTGTTGGTCTAAGCTTATGAGTCACTGGATTAGCATCCATATGGGAAGGGAAATTAACATGG **AGTCATTTATACAGGGACTAAATTGAATCCTACCTACCGGAGGCAAGAACATGATTTATCTTCCATAAGCCTTAT** TTGCTAACGTTTCCACAATTGTCAAGTATATTCTGAGGCAGTAAACACCTTTTTAGGTACGTGGCCTTTCACTGG TTGTGAATTGGTATGCATCCGTAGTAGTAAGTTCACAGATTCACTGCAGTGCAGGAATGTTCTTGCATGCCAAAG ACTCAACTGCTTTCAAAGATAATGTGGGTGCTAGATGCAGTGGCTTACATCTGTAACCCTGTTAGGGTGACCAGA CCCAACACCAGGTCGTGGGGGTGACAAAGTCCAGTGGAGTCAAAGGATTGAGAAAAAAGACAGTTTGAGAGAAAG ATCCAACAAAGAAACAGATGGTGAGAATGTGAAGGTCAGAAGGGCACCTTGCATTAAGCACATGATTTACAGCTG TGATGGTTTAGCATTTGCTCTGCTACTTGAGATGATGGAGAGCAGGTTCTTTTAACTCAAGTTACAGTCGATCCT GGGAGAGCAAGGAGCCAGCAAGTCTAGACATTCCAGAGCCACAGGCCCTGGATTTTATCCAAGCCACGAGGGATT TTATGCCCTGGGCTTAGATTATGGTGCGTCAGGGCAGCCTTCCACCCTTTAGCACAGAGCTTGGTGTTCCAAAGA CCACAAGGGGTTTTAGACCCTTGACCCTGGACATATTCCAAGACTCTTTTACATTATGTCAGAATGCAAGCCCTG CCTCAGCTTCTCCCAACACTCAGCTTTTCGCAACATAATCCCAGCACTTTGGAACGCTGGGTGGATTGCTTGAAC

4690/6881 FIGURE 4323B

MEDSASASLSSAAATGTSTSTPAAPTARKQLDKEQVRKAVDALLTHCKSRKNNYGLLLNENESLFLMVVLWKIPS KELRVRLTLPHSIRSDSEDICLFTKDEPNSTPEKTEQFYRKLLNKHGIKTVSQIISLQTLKKEYKSYEAKLRLLS SFDFFLTDARIRRLLPSLIGRHFYQRKKVPVSVNLLSKNLSREINDCIGGTVLNISKSGSCSAIRIGHVGMQIEH IIENIVAVTKGLSEKLPEKWESVKLLFVKTEKSAALPIFSSFVSNWDEATKRSLLNKKKKGGKEKTKRKKF

WO 2004/030615

TGTCAGCCGGCCTAGGAGGAGGAGGAGCCTGCGGCGTGCAGTGTGAGGGGCCGGACCCGGCTGCCGGCGGGG TCTAGCTGGGGGAGGTCGGGCCATGCTGGTGGGCCAGGGCCGGGGGCCGCTGGGGCCCGCGGTGGTCACCGCCGC GGTGGTGCTGCTGAGCGGCGTGGGGCCGCGCGCACGGCTCGGAGGACATCGTGGTGGGCTGCGGTGGCTTCGT CAAGTCGGACGTGGAGATCAACTACTCTCTCATCGAGATAAAGCTGTACACCAAGCATGGGACTTTGAAATACCA GACAGACTGTGCCCCTAATAATGGTTACTTTATGATCCCTTTGTATGATAAGGGGGATTTCATTCTGAAGATTGA GCCTCCCCTAGGGTGGAGTTTTGAGCCGACGACCGTGGAGCTCCATGTGGATGAGTCAGTGACATCTGCACAAA GGGTGGGGACATCAACTTTGTCTTCACTGGGTTCTCTGTGAATGGCAAGGTCCTCAGCAAAGGGCAGCCCCTGGG TCCTGCGGGAGTTCAGGTGTCTCTGAGAAACACTGGGACCGAAGCAAAGATCCAGTCCACAGTTACACAGCCTGG AGAGGCAAGCACCACAGTGCGTGTAACCAACTCCAATGCCAATGCGGCCAGTCCCCTCATAGTTGCTGGCTACAA TGTGTCTGGCTCTGTCCGAAGTGATGGGGAGCCCATGAAAGGCGTGAAGTTTCTTCTTTTTCTTTAGTAAC TAAAGAGGATGTCCTGGGCTGCAATGTCTCACCAGTGCCTGGGTTCCAGCCCCAAGACGAGAGTCTGGTGTATTT GTGCTACACGGTCTCCAGAGAAGATGGCTCGTTCTCTTTCTATTCCTTGCCAAGTGGGGGCTACACTGTGATTCC GTTCTATCGAGGGGAGAGGATTACCTTTGATGTGGCGCCTTCCAGACTTGACTTCACAGTGGAGCATGACAGCTT GAAAATCGAGCCCGTGTTCCACGTCATGGGATTCTCCGTCACCGGGAGGGTCTTGAACGGACCCGAAGGAGATGG TGTTCCAGAAGCAGTAGTCACCCTGAATAACCAAATCAAAGTTAAAACAAAAGCTGATGGCTCATTCCGCCTTGA GAACATAACCACAGGGACATACACCATCCATGCTCAGAAAGAGCACCTCTACTTTGAAACGGTCACCATCAAAAT CTTCCCCGACACCGTCAAGCAGATGAATAAATACAAAGTTGTCCTGTCATCTCAAGACAAGGACAAGTCTTTGGT CACCGTGGAGACAGATGCTCATGGATCATTTTGTTTTAAAGCAAACCCAGGGACTTACAAAGTGCAGGTGATGGT TCCTGAGGCAGAAACCAGAGCAGGGCTGACGTTGAAACCCCAGACATTTCCTCTTACTGTGACCGACAGGCCTGT GATGGATGTGGCCTTTGTACAGTTCTTGGCATCAGTTTCTGGGAAAGTCTCTTGTTTGGACACCTGTGGTGACTT GCTGGTGACTCTACAGTCCCTGAGCCGCCAGGGTGAGAAGCGGAGCCTCCAGCTCTCCGGCAAGGTCAACGCCAT CAAGAGCCTGGAGGTGGAAGTGCTGGAGGATGACGTGTCTGCAGTTGAGTTCAGGCAGACGGGCTACATGCTGAG ATGTTCCCTGTCTCACGCCATCACTCTGGAATTTTATCAGGATGGAAATGGGCGTGAGAATGTGGGGATTTATAA CCTCTCCAAAGGAGTCAACCGATTCTGCCTGTCCAAGCCTGGTGTACAAAGTGACCCCTCGCTCCTGCCACCG GTTTGAGCAAGCGTTCTACACCTATGACACGTCTTCACCTAGTATCTTGACATTGACAGCCATTCGCCACCATGT CCTTGGAACTATCACCACCGACAAAATGATGGATGTCACTGTGACTATCAAGTCTTCCATCGACAGTGAACCCGC TGAGTTACAAGGCCCCTTCTCGTATGATTTCTCTTACTGGGCGCGGTCTGGAGAAAATCACTGTTACACCGTC ATCTAAAGAGCTGCTCTTTATCCCCCTTCAATGGAAGCCGTTGTCAGTGGAGAAAGCTGCCCAGGGAAGCTGAT ${\tt CGAGATCCACGGGAAGGCAGGCCTGTTTTTAGAAGGCCAGATCCACCCCGAGTTGGAAGGAGTCGAGATTGTCAT}$ CAGTGAAAAGGGGGCAAGTTCACCGCTGATCACAGTCTTTACTGATGACAAAGGTGCCTACAGTGTTGGCCCCCT AGACTTCAAGGCCTATGCCCTGGCAGGCGTAAGCTTTGAGATAAAAGCTGAGGATGACCAGCCCCTCCCGGGAGT CCTCTTATCCCTGAGCGGTGGCCTGTTTCGTTCCAACCTCTTGACCCAGGACAACGGAATTCTGACATTCTCAAA ACGTGTTGCTTGACAACGTGAGAAGAGAAGGCCAATGTGGAGTGGTTTCAGTTTCT

 ${\tt AGCCGCCTCTGCCGCCGCCGCCGCTTGGCCTCGCCGCCCCTGCTCGGACACCATGCCACAAGGAGAGTGATCTC}$ TTCCCCTGTTTTCACA<u>ATG</u>GAGGACTCCGGAAAGACTTTCAGCTCCGAGGAGGAAGAAGCTAACTATTGGAAAGA TCTGGCGATGACCTACAAACAGAGGGCAGAAAATACGCAAGAGGGAACTCCGAGAATTCCAGGAGGGAAGCCGAGA ATATGAAGCTGAATTGGAGACGCAGCTGCAACAAATTGAAACCAGGAACAGAGACCTCCTGTCCGAAAATAACCG CCTTCGCATGGAGCTGGAAACCATCAAGGAGAAGTTTGAAGTGCAGCACTCTGAAGGCTACCGGCAGATCTCAGC CTTGGAGGATGACCTCGCGCAGACCAAAGCCATTAAAGACCAATTGCAGAAATACATCAGAGAGCTGGAGCAAGC AAATGACGACCTGGAAAGAGCCAAGCCGCCACGATCATGTCTCTCGAAGACTTTGAGCAGCGCTTGAATCAGGC CATCGAAAGAAATGCCTTCCTGGAAAGTGAACTTGATGAAAAAGAGAATCTCCTGGAATCTGTTCAGAGACTGAA GGATGAAGCCAGAGATTTGCGGCAGGAACTGGCCGTGCAGCAGAAGCAGGAGAAACCCAGGACCCCCATGCCCAG CTCAGTGGAAGCTGAGAGACAGACAGCTGTGCAGGCCACGGGCTCCGTGCCGTCCACGCCCATTGCTCACCG AGGACCCAGCTCAAGTTTAAACACCCTGGGAGCTTCAGACGTGGCCTGGACGACTCCACCGGGGGGACCCCCCT CACACCTGCGGCCCGGATATCAGCCCTCAACATTGTGGGAGACCTACTGCGGAAAGTCGGGGCACTGGAGTCCAA ACTCGCTTCCTGCCGGAACCTCGTGTACGATCAGTCCCCAAACCGAACAGGTGGCCCAGCCTCTGGGCGGAGCAG CAAGAACAGAGATGGCGGGGAGAGACGGCCAAGCAGCACCAGCGTGCCTTTGGGTGATAAGGGGTTGGACACGAG TTGCCGCTGGTTGTCCAAATCAACAACCAGGTCGTCCAGCTCCTGCTGAAGCCTGTTCTTGGTCTTTTCCAGTTT ATCATACGCGGCCGCCTTCTCCTCGTACTGCTGGGTGAGGTTCTCGATCTCCTTCTGGAACCTCTTCTTCCCCTC TTCCAGAGCTTCCACGGTGCTGGCAAAGTCCTGCAGCTTCTTCTTCGAGTCGGAGAGCTACAAGGACAGCGTCCA GGGTAGGGTGAGAGGGGGACCATGAATGGCCCCTGTCCCTGGCCCCACAGACTCTGAGAAGCCAAGACCATGTCT CCTCGTTGGAGAAACCCAATAGCAGGGGAAGCTGGGGGGTCAAGCACCATCGCACCAACACTCCACCGCGATCTG GTTGAGAGTGGAGATGTGGCCTCCAGGTTCTGCTTGGCCTCCATCTCCTCGTCCAGCTGGTCTTGCAGGCTGTT CCGCTCCTCCAGCTGGCGCAGCTTCGTAGACACGTTGAGCTTCTGCCGGGTTTCTTCTTGAAGCAGCTCCTG CAAAAGGGATGCAAAGAGGTCCCAGGGACCTGCCCCGAGGAAGGCCACCCCCAGGTCCCCTGGATGATGTGGCA ${\tt GGACACTCACCTGGGTGTCCTGGAGCTGGGAACTGAGGGACGCCACGTCCTTGGCCAGCTTAATGGCCTTCCCCT}$ $\tt CGGCCTCGTTAAGCATCCCTGTGACGCTCTCAACTTCATTCTAAGGGTGCCAAGAGACTGGTTAGTCAAAGCCTC$ TAGAAGGGGATCCTCGTTGAAAGGAGCCCTTTTTACTCAAAACACATGGGCTAGTACTTGAGGTGTTCACTGATT

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 ${\tt GCCCCAGGAGCCCGGCGGGTCCGGGACTCCCGTCCGTGCCGGTGCGGGCGCCGGC} \underline{{\tt ATG}} {\tt TGGCTGTGGGAGGACCA}$ GGGCGGCCTCCTGGGCCCTTTCTCCTTCCTGCTGCTAGTGCTGCTGCTGGTGACGCGGAGCCCGGTCAATGCCTG CCTCCTCACCGGCAGCCTCTTCGTTCTACTGCGCGTCTTCAGCTTTGAGCCGGTGCCCTCTTGCAGGGCCCTGCA GGTGCTCAAGCCCCGGGACCGCATTTCTGCCATCGCCCACCGTGGCGGCAGCCACGACGCCCCGAGAACACGCT GGCGGCCATTCGGCAGCCAGCTAAGAATGGAGCAACAGGCGTGGAGTTGGACATTGAGTTTACTTCTGACGGGAT TCCTGTCTTAATGCACGATAACACAGTAGATAGGACGACTGATGGGACTGGGCGATTGTGTGATTTGACATTTGA ACAAATTAGGAAGCTGAATCCTGCAGCAAACCACAGACTCAGGAATGATTTCCCTGATGAAAAGATCCCTACCCT AAGGGAAGCTGTTGCAGAGTGCCTAAACCATAACCTCACAATCTTCTTTGATGTCAAAGGCCATGCACACAAGGC AGAAGTTATCTACAAGATGAGACAAACAGATCGGGATGTAATAACAGCATTAACTCACAGACCTTGGAGCCTAAG CCATACAGGAGATGGGAAACCACGCTATGATACTTTCTGGAAACATTTTATATTTTGTTATGATGGACATTTTGCT CGATTGGAGCATGCATAATATCTTGTGGTACCTGTGTGGAATTTCAGCTTTCCTCATGCAAAAGGATTTTGTATC GAGTTACTACGAATCCCATCTTGGTTCCAGCTATATCACTGACAGCATGGTAGAAGACTGCGAACCTCACTTC<u>TA</u> **GACTTTCACGGTGGGACGAAACGGGTTCAGAAACTGCCAGGGGCCTCATACAGGGATATCAAAATACCCTTTGTG** CTAGCCCAGGCCCTGGGGAATCAGGTGACTCACACAAATGCAATAGTTGGTCACTGCATTTTTACCTGAACCAAA GCTAAACCCGGTGTTGCCACCATGCACCATGGCATGCCAGAGTTCAACACTGTTGCTCTTGAAAAATCTGGGTCTG AAAAAACGCACAAGAGCCCCTGCCCTGCCCTAGCTGAGGCACACAGGGAGACCCAGTGAGGATAAGCACAGATTG GCCACACTTATTCAAATATTTGTACTCAGCTATGTTAACATGTACTGTAGACATCAAACTTGTGGCCATACTAA TAAAATTATTAAAAGGAGCACTAAAGGAAAACTGTGTGCCAAGCATCATATCCTAAGGCATACGGAATTTGGGGA AGCCACCATGCAATCCAGTGAGGCTTCAGTGTACAGCAACCAAAATGGTAGGGAGGTCTTGAAGCCAATGAGGGA TTTATAGCATCTTGAATAGAGAGCTGCAAACCACCAGGGGGCAGAGTTGCACTTTTCCAGGCTTTTTAGGAAGCT CTGCAACAGATGTGATCTGATCATAGGCAATTAGAACTGGAAGAAACTTCCAAAAATATCTAGGTTTGTCCTCAT GCTCATGCCGATAATCCCAGCAATTCAGAAAGCTGAGGCAGGAGGATTACTTGAGGCCAGACTGGGCAATATAGC AAGACCCCATCTCTAAAAAATTAGGCATGGTGGTGCATGCCTGTATTCCCAGCTACTCAGGAGGTTGAGGTGGGA GGATCACTTGAGCCCAGAAGTTCAAGGCTGCAATGAGCCATGATTACACCACGGCACTACAACCTTGGTGGCACA GTGAGAACCTGACTCTTAAAAAAAAAAAAAAAAAAAA

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MSAEVETSEGVDESEKKNSGALEKENQMRMADLSELLKEGTKEAHDRAENTQFVKDFLKGNIKKELFKLATTALY FTYSALEEEMERNKDHPAFAPLYFPMELHRKEALTKDMEYFFGENWEEQVQCPKAAQKYVERIHYIGQNEPELLV AHAYTRYMGDLSGGQVLKKVAQRALKLPSTGEGTQFYLFENVDNAQQFKQLYRARMNALDLNMKTKERIVEEANK AFEYNMQIFNELDQAGSTLARETLEDGFPVHDGKGDMRKCPFYAAEQDKGALEGSSCPFRTAMAVLRKPSLQFIL AAGVALAAGLLAWYYM

4711/6881 FIGURE 4344A

CGGCCTGGTCCGGGCCATGTCCGCGTGAGGACCCCGCCGCTGTCGCCGCTCCCGTTCCGGCCCTCTGCCCCTCTGC CCGGCAGCGCCGCGCACCATGGGCTCCATTCTCAGCCGCCGCATCGCGGGGGTGGAGGACATCGACATCCAGGCG AACTCGGCCTATCGCTACCCTCCGAAGTCCGGAAACTACTTTGCTTCGCACTTTTTCATGGGAGGAGAAAATTC GACACCCCCACCCTGAAGGTTACCTCTTTGGAGAGAACATGGATCTGAACTTCCTGGGCAGCCGCCCGGTCCAG TTTCCCTACGTCACTCCTGCCCCCCACGAGCCCGTGAAGACGCTGCGGAGCCTGGTGAACATCCGCAAAGACTCC CTGCGGCTGGTGAGGTACAAAGACGATGCCGACAGCCCCACCGAGGACGGCGACAAGCCCCGGGTGCTCTACAGC CTGGAGTTCACCTTCGACGCCGATGCCCGCGTGGCCATCACCATCTACTGCCAGGCATCGGAGGAGTTCCTGAAC GGCAGGGCAGTATACAGCCCCAAGAGCCCCTCGCTACAGTCCGAGACCGTCCACTACAAGAGAGGGGTGAGCCAG CAGTTCTCCCTGCCCTCCTTCAAGATTGACTTCTCGGAATGGAAGGATGACGAGCTGAACTTTGACCTGGACCGG GGCGTGTTTCCAGTAGTCATCCAGGCTGTGGTGGACGAAGGAGATGTGGTGGAAGTGACTGGCCACGCCCACGTG CTCTTGGCTGCCTTTGAAAAGCACATGGACGGCAGCTTCTCTGTGAAGCCTTTAAAGCAGAAGCAAATTGTGGAC CGGGTCAGCTACCTCCTGCAGGAGATCTATGGCATTGAGAACAAGAACAACCAGGAGACCAAGCCCTCGGACGAC GAGAACAGCGACAACAGCAACGAGTGTGTGTGTGCCTGTCCGACCTGCGGGACACGCTGATCCTGCCCTGCCGC CACCTGTGCCTCTGTACCTCCTGCGCCGACACGCTGCGCTACCAGGCCAACAACTGCCCCATCTGCCGGCTCTTT CCGGGCCCTCCTGCAGATCCGGGCGGTGCGGAAGAAGCCAGGAGCCCTGTCCCCCGTGTCCTTCAGCCCCGTCCT GGCCCAGAGCCTGGAGCATGATGAGCACTCTTGTCCCTTTAAAAAATCAAAGCCGCACCCCGCCTCCCTGGCCAG CAAGAAACCTAAAAGGGAAACAAACTCTGACAGCGTCCCACCTGGCTACGAGCCCATCTCGCTGCTCGAGGCGCT CAACGCCTCCGGGCTGTCTCCCCGGCCATCCCCTCGGCCCTCTTTATGAAGAAATCACCTATTCAGGCATCTC GGACGGCCTGTCCCAGGCCAGCTGTCCCCTCGCGGCTATCGACCACCTCTGGACAGCAGCCGCCAGAAGGGCAG GCCGCAGAGCCACCCGACAGCACCCTACGGTCCCCGTCTTCCCCCATCCACGAAGAGGATGAGGAGAAGCT CTCCGAGGACGTGGACGCCCTCCCCCACTGGGTGGCGCAGAGCTGGCCCTGCGGGAAAGCAGCTCCCCTGAGAG TTTCATAACAGAAGAGGTTGATGAGTCGTCACCACAGCAAGGGACCCGAGCAGCTTCCATTGAGAATGTCCT GCAGGACAGCAGCCCCGAGCACTGTGGCCGAGGCCCACCTGCTGACATCTACCTGCCAGCCCTGGGGCCCGACTC CTGCTCTGTTGGTATAGACGAGTAAGCCGGTACGTGACCTCCCAGACGCGCTTCGGGGGGCTCTGACGCGCGTCCT TCCCAGGGGCCCTGGATTCCGAATCCAGAGCTCTCCAGTGGCTGCTGCACCTTCCCCCAGAAAGTGGCCTCCTGG GGGGTCCTGACTTTCGGGGCCAGAGGTCTCTCCATCTGGACTAGGCGGCCGGTCAGGCTCTTCTTCCAGCCTTGA GGAGGCAGGAGCTTGAGGGATGAGGGCAGCACCGTGGAGGGAACCCCAGGGAGACATGGGGTGAGCGTCCCAAGG GGAGAGGCCTGGCCTTGTTCCGGATGGTCCCACCATGAGTTCGCATCGGTCCTGCAGCAGACACGTTAG GACGCTCAGCAGGTCCACTCCCGTGTTCCGGTCGTGGCTTTAACAATTCATGGGGAAAGAATGCGCCCCGATTGG GTGCCCAGGGGAGAGTATCTTGCGTCCTGTCCTGAGGGCGTCCGCTCACACAGCCACCTGCTCCCCCGCTCCCTC CTTCCCTTGTCAGCATGGCCACCGTGGGCCTGGCATCACCATGGGCCTGGCACACAGTCCCTCGTGGGCTGCCTT GATAGGAGGCCCTGTGAGGTTGGCATCCCCCATCCCCCAAGAGGCGCCCTCTACCAGGGTGGCCCAGGTGAGT GTTTTACAGAAGGCGGCTCTGTCCAGGCAGTGGTTCGCACCTATAAGCCCGGTACTTTGGGAGACCGAGGGGATA GATCACTTGAGCCCAGGAATTCAAGATCAGTGTAGAAAACATAGACCCCCTCTCTATGAAAAATAAAAATTGGC TTGGGCGTGGTAGCTTGTGCCTGTGGTCCCAGCTACTCAGGGGTGCTGAGGTGGGAGGATTGCCGGAGCTGGGGA GCAGCTCCAGGAGTGCCACCAAAATGTAGGCAGACGGATTGGGGACCCTCTGCCTTCCCAGAGGGTCTTGGCACA CAAGCTGCGTGCAGCTCTGGTCTGCCGAGGCCCATGCAGCCTGCTGGGAGGTGCCTGGCCGGGGTGCAGGCTCT AAGAGGCCCTTTCCCCTTGGGTGGACTTGAGCCGGGTCAGGGAGAACTTCGCTTCTTTTGACTGCGCTCTGCATT CCCATGAACCTCTGTCTTCTTGAGCCCAGCGAGTCCCTCTGTTGACCCCTGTCCTGAGCCATTATACCCCTAGAT TGAAACAGTCAGCACCTTTCAGACGGCCCCGGCCTGCGCATCGGTGGAAGGTGCCGTGCGAATGTCACGATTCAG GTCAAGCTTCCGGAGCTGGGAGTGCAGGTGTGATCTAGAACAGGGCTCACAGCCTCGGAAACCTGCTCTCGCCG CGGCCCCGAAGAAAATAGACGCCCTTCACCGGAGAGTGGGGCCTGGGCCGTGTCTGCTGGGAGCCATGTGTCAG

4712/6881 FIGURE 4344B

GGCTGGTGGCTGGGTGTCAGGCAGCCCTGAGGCCATGCTGGCCCCGTCCCAGGCTCTGCACCAGCACCATTGCCC CTCTGTGGGAGGCTCCTCTTTTGCCTTGCAGTAGCCATCCGGGGGCTACTCTGAGCACGGGCTTGTTCTCACCC AGGGCCGCTCCCCACCCCTGCACCCTGGGTTGACCGAGTTCCACCCTAACCCAGCCGTAAGAACCTTGGCAGGAC AGTGGCTGGCCACATCCCAGGAAACCGGAACCAGGGCAAGGGCAGGAGGCCCAGAGGGCATCCACCGCGGTGCCG TGTCGCGCTCTGACTCGGGGCTGCAGATCTGCTGTGGGTGTCCGGGGATCTGGGATCGTCTGTCCCAAGAGGGAC ACAGCGTATTTGGCACAGTTAGGGAGTCCCCGGGCCCTTGGTGTGCTCACATCTGAGTGAATGCTGTTGTGGCCA CAGGCGGCGGGAGTGGGGTGGTGGATGGCCCAGCCCCTCTGGGGCTCCAGATCGGTAGGAGCGGGTGGCGTGGC ACCAGGCATCCGAGTGTGACCCTCCTCCCTCTGCTCCCACCTGCAGGACGGCCCACCTCCATGGAGACGGCCCAC GGCCTCGCCACCAGCCCCACCTGGCCTCCACTTGGTGGCCCCAGCCCCGATCCCAGCGCCGCCGAGCTGACC CCACTCTGAGAGCCTGGCCGAGCTGGCAGCATGGAGCCCTCGGCTCCCCAGACTTTGCCGAGGGGCTGCTCCGGA CCCCGTTGTGAGCCGGCCTCCTGTCTGCATGCCCCCTGTGGCCACCAGGCTCCGAGGGGCCGTGGTGACTCTTGA TCAAAGAGCACAGTGAACTGTCCCTTCTGAGTCTCCCTTTTCTACAGTTGATATATTTGTAACTGGTACAAGATG AAGGACAGCAGCTTTCCATCCCTAGTTCAGAGCCCCCGTTCCCCAGGGTCCTGTGGGCTGAGCGGCTGGGGCTGG GGCTGCCCACGTGTGGCCTCCGCTGGCTCTGCTCCTGCAACAGTGCGGTCCCTGCCCGGAGAACTCAGGAG GCCTGCAGAAGAACTGATTGGTGGTCGAAGCACCATCTTCACAGATGTTCAGGGGGCAGTGGGGGGGCTCCAGGC ACGGTCAATGAAGGAAACAGTGCCTGTCCACCCACCCTGCGTGTCACTGTGGCGGCCTGGCTGTCGCTGTTTTT GTCCTCTGCCGTGTTTGCGCGGCCTCAGTGCCCTCCCTGGTGCGTCTGCGCTGGGGCCCTCAGTGCTCGGGGCCCT TGGGGTGCATGGGTGCCGCCCTGGGCAGCTAGAGTGTCTCAGCCCGGTGCTGGGCCTGGCCGAGGGGCGGAGGCA CAGCTGCTTCCAGCAGCCAGCATTCAGTGGCCTTGTCACCAAGCTCCACACCTCCTGGTGCTGGCTTTGGTG ACATCACAAGGCCCCTCCAGGTGCAGGGGCTTCTGTTTGGCAGGCCCCTGCCAGGGAGGACCTGGTGGCCTCCTC TTGCTGCCCAGGCTGGAGTGCAGTGGCTCAATCTCGGGTCACTGCAACCTCCGCCTCCCGGGTTCAAGTGATCGT GTAGAGAAGGGATTTCACCATGTTGGCCGGGCTGGTCTCAAACTCCTAAGGTCATCCACCTGCCTCGGCCTCCCA GAGTGCTGAGATTACAGGCGTGAGCCTCCGCGCCCGGCCCCTTGCAGTTCTCTCTGATTTGGTTTGTTCTGTCT CGCAGATGGCAAAGGGAGTGCCTGGGCCTGGTGACCCAGGGCTGGATCCACCCCTGCGGAGCCCTGGGCCAGGCA GGTGTCTGCTCACCTGGCTCTGGAGGGCTGCCCTGCAGCTGGGGCCTGGGGACAGGTCGGCTGTGGGGCAGCT CAGTACCCTCCCTGAGGCTCACGGTGGCTCCGAGCATGAGGTCCGCCTCCTGGGCGAGACCCAGCAGTGGACAGC TCACACGTACACACACAAATGCACGCCCACTTGCACATGCTCACGCACATGTTCACACATGCACACTCACGCT GCCCCTGCACCGCCCGCCCCCCCCCCCACCAAGGCCCCAGCCTCTGGCCATCAGTCCTGGTGCCAGAGCTTTG CGTGAAGTTCGGGCCGCAGAGTGGCCCGCTGGGACTCCCATGTGCTGCCGTCTGATGTGCTCAGATGGGCTCATC GTTGGTTCGTTTTTACTGTATATTTATAGTAATAAAATCATGCAGC

MGSILSRRIAGVEDIDIQANSAYRYPPKSGNYFASHFFMGGEKFDTPHPEGYLFGENMDLNFLGSRPVQFPYVTP APHEPVKTLRSLVNIRKDSLRLVRYKDDADSPTEDGDKPRVLYSLEFTFDADARVAITIYCQASEEFLNGRAVYS PKSPSLQSETVHYKRGVSQQFSLPSFKIDFSEWKDDELNFDLDRGVFPVVIQAVVDEGDVVEVTGHAHVLLAAFE KHMDGSFSVKPLKQKQIVDRVSYLLQEIYGIENKNNQETKPSDDENSDNSNECVVCLSDLRDTLILPCRHLCLCT SCADTLRYQANNCPICRLFPGPPADPGGAEEARSPVPRVLQPRPGPEPGA

GAGGAGTTCCGCTGGCTGCACGACGACGACGTGCACGTGTGTTGAAGCAGCTGCAGGACATCCTCAAGGAGGCC GGCACAGACCAGGTGAAGGGTGTGCTGACTCTGCAGGGGGGATGCCCTCAGCCAGGCGGATGTGAACCTGAAGATG CCCCGGAACAACCAGCTGCTGCACTTCGCCTTCCGGGAGGACAAGCAGTGGAAGCTGCAGCAGATCCAGGATGCC AGAAACCATGTGAGCCAAGCCATTTACCTGCTTACCAGCCGGGACCAGAGCTACCAGTTCAAGACGGGCGCTGAG GTCCTCAAGCTGATGGACGCAGTGATGCTGCAGCTGACCAGAGCCCGAAACCGGCTCACCACCCCCGCCACCCTC ACCCTCCCGAGATCGCCGCCAGCGGCCTCACGCGGATGTTCGCCCCTGCCCTGCCGTCCGACCTGCTGGTCAAC GTCTACATCAACCTCAACAAGCTCTGCCTCACGGTGTACCAGCTGCATGCCCTGCAGCCCCAACTCCACCAAGAAC TTCCGCCCAGCTGGGGGCGCGGTGCTGCATAGCCCTGGGGCCATGTTCGAGTGGGGCTCTCAGCGCCTGGAGGTG AGCCACGTGCACAAAGTGGAGTGCGTGATCCCCTGGCTCAACGACGCCCTGGTCTACTTCACCGTCTCCCTGCAG CTCTGCCAGCAGCTCAAGGACAAGATCTCCGTGTTCTCCAGCTACTGGAGCTACAGACCCTTCTGATCACAGCAC CAGGCTGCTATTTATCTCCCTATCCCACCCCTACCCCACCTAACACATTTGCACTGCCAGGAATGGACACTGGA CTCCCCTTCGCTGTCCCCTCCCCTGGAGGGCATGGTGTCGGGGGGGTGGCACTGAGCTATGAGTCCCGGGGATGG TGAGGAACGCCACAGACAGACCCCTAGGAGTGAGTATAGTGCTGGTGACTGTTTTCATAGCCCCAGTCCAG

MATVMAATAAERAVLEEEFRWLLHDEVHAVLKQLQDILKEASLRFTLPGSGTEGPAKQENFILGSCGTDQVKGVL TLQGDALSQADVNLKMPRNNQLLHFAFREDKQWKLQQIQDÄRNHVSQAIYLLTSRDQSYQFKTGAEVLKLMDAVM LQLTRARNRLTTPATLTLPEIAASGLTRMFAPALPSDLLVNVYINLNKLCLTVYQLHALQPNSTKNFRPAGGAVL HSPGAMFEWGSQRLEVSHVHKVECVIPWLNDALVYFTVSLQLCQQLKDKISVFSSYWSYRPF

GTCATGGCGCCCGAGGAGAACGCGGGGACCGAACTCTTGCTGCAGAGTTTCGAGCGCCGCTTCCTGGCGGCACGC ACACTGCGCTCCTTCCCCTGGCAGAGCTTAGAAGCAAAGTTAAGAGACTCATCAGATTCTGAGCTGCTGCGGGAT TCAGAACTCATCAAAAAGCACGAGGCTGTCCACACAGAGCCTTTGGACGAGCTGTATGAAGCGCTGGCGGAGACC CTGATGGCCAAGGAGTCCACCCAGGGCCACCGGAGCTATTTGCTGCCCTCGGGAGGCTCGGTCACACTCTCCGAG AGCACGGCCATCATCTCCTACGGTACCACAGGCCTGGTCACATGGGACGCCGCCCTCTACCTTGCAGAATGGGCC ATCGAGAACCCGGCAGTCTTCACTAACAGGACTGTCCTAGAGCTTGGCAGTGGTGCTGGCCTCACAGGCCTGGCC ATCTGCAAGATGTGCCGCCCCCGGGCATACATCTTCAGCGACTGTCACAGCCGGGTCCTTGAGCAGCTCCGAGGG AATGTCCTTCTCAATGGCCTCTCATTAGAGGCAGACATCACTGCCAAGTTAGACAGCCCCAGGGTGACAGTGGCC GCTCCTGAGGTCTACGTGGCCTTTACCGTCCGCAACCCAGAGACGTGCCAGCTGTTCACCACCGAGCTAGGCCGG GCCGGGATCAGATGGGAAGTGGAACCTCGTCATGAGCAGAAACTGTTTCCCTACGAAGAGCACTTGGAGATGGCA ATGCTGAATCTCACCCTGTAGGACTCACACGCACTCCAACGGGATTGTGAGAATCAAGTCACTCTCATGGGAAG AATTTTTATATGGGAAAGCGGATAAAACTTTCATTGGACTGGAATGTTTGGAGAATGTTAATTTCCAAATCAGGA ACCACAAACTGCCCTCTAATAAGACATCGGCTATCTAAGCGTGTGGGTGCCCCCTTTCTGCCAGCAGTTCTGGTT CTTAAGAAAATCACCATAAATCAGACATGAAAATTCTGGCTCCAAAAATAGCATTTTCTTTGTGCAAATAAAAAC GTGTGTATCAAGTATGATGTTCCCCCAACGTGGACACACTCAGTTCCTCACAAAGCCAAGCCCACTGCAGCTGCC ACATCCCTGGGCTTACGGTGCAGCAGGTGCTTTTTTCAAGACAGGAATCAAAATGTTAGGAACACGGCAGAAAGG GGACACCTGGAGACCAAACGCAGGATGAGGAGTTCTGCAGAGGTCACAGGGAAGTCACAGAACAGTAATACGCTA GCAGGGGCATGGGGCGTGAAGAACAGAAGAAGAGAGGGAAGCGTTTCCAAGCCTCCAGAGAAAATCAAGGCCAA CCAAAGCTTCCCGGGTCACAGAACCAATTCTTTTACCAGGCAGTACCACTGCTGTCATTTCAGCTTCTGGCCACT GGGAGGTGCTGCAAAGGGTTTGCCCTGAGACTCCAAGAAGAAGCTGCGGGAAGGACAGCAGGGGTCCTGGGG TTTTAGCCTCTGGCCCAGGAGTTATGTGTCCATAACCAAAGGGAGCACAGTCTGCACCCAGCTCTCATCCCATCG GAGCTGCTGCGACTCCCGCAGGTTCTTCCGGAACTGGTTTAGCTTGCCCGCAGGATCAGGAAAGTTTGAGAAAAG CATCTGCAAAAAATAAAGAGCAGAGCTTACCTC

FIGURE 4349

MAPEENAGTELLLQSFERRFLAARTLRSFPWQSLEAKLRDSSDSELLRDILHKTVKHPVCVKHPPSVKYARCFLS ELIKKHEAVHTEPLDELYEALAETLMAKESTQGHRSYLLPSGGSVTLSESTAIISYGTTGLVTWDAALYLAEWAI ENPAVFTNRTVLELGSGAGLTGLAICKMCRPRAYIFSDCHSRVLEQLRGNVLLNGLSLEADITAKLDSPRVTVAQ LDWDVATVHQLSAFQPDVVIAADVLYCPEAIMSLVGVLRRLAACREHQRAPEVYVAFTVRNPETCQLFTTELGRA GIRWEVEPRHEQKLFPYEEHLEMAMLNLTL

GGCACGAGGGAGAGTCGTCCAGGAGGCGGTGTTGATGCGGCAAAGGGCAACAGGAAGGGCATTAGGACTTGAAA TCGGAGACGCACGCAGGGGAGGGAGTCAGTGTCGGAACCTGGTAGGCCCTGGGAGAACTCCGGCTTTTCGTCTGC GTGAGCTGGAGAAGAGCCGAAGGTTTCTGCGCACAGCACCGGACCTGCGTGCCTCAGCTTTAAGGAAATCACCGTG GCCGCCGCTGTGAACGCAGAAGGGCGCGAGCGTGGGAGCAGCAACCCAAGGCGGTGGGAAACGGTGGGGCTTT CTGAGTGTATTGGAAAGTAGAGCCCACAGATCTGCTGCAGACCAGAAAGGGGGCGCGAGAAAGAGCGGACAGAGGC ${\tt AGACGCCGGGGCTGGCGGATGGAGCAGCAGTCGGAGGACGCCGGAAGGCCTGCGAGAGTCGCCCGCGCCCAGC}$ GCCGGCCTTCGGGTCCCACCTTGCGGGTGATGTTGTGCACGTAGGGGCACGTGTTGCAGGCGAAGCGGTGGCAGC GTTGTCCCTCCACGATCAGCCCGTTCCCGCAGCCGGGGCAGAACAGCATGGTCTCGAACTCCGCAGGCT CTTCCCGCCACCCAACCAACCAATAGACAGGGCGATTCTGCGCTCCCGGCCCTGCTGCAGGCTGTCTCGCACTT~ TTCCTGCGCGTGCGCCTTGGCCTCCTAGTGCGGGCTGGCAGTGCGGGCAGAGCCCGGCTGAGAGGGGCGGCCC TGGAGGAGACGGAGGCCGCGGTGGGCCCGAGGCGCAAGAGATGAGGACGAAGAAGAGAGCGCTGCCGCACT CCGAGGCC<u>ATG</u>GACGTGTTCCAGGAGGGTCTGGCTATGGTGGTGCAGGACCCGCTGCTCTGCGATCTGCCGATCC AGGTTACTCTGGAAGAAGTCAACTCCCAAATAGCCCTAGAATACGGCCAGGCAATGACGGTCCGAGTGTGCAAGA TGGATGGAGAAGTAATGCCCGTGGTTGTAGTGCAGAGTGCCACAGTCCTGGACCTGAAGAAGGCCATCCAGAGAT ACGTGCAGCTCAAGCAGGAGCGTGAAGGGGGCATTCAGCACATCAGCTGGTCCTACGTGTGGAGGACGTACCATC TGACCTCTGCAGGAGAAACTCACGGAAGACAGAAAGAAGCTCCGAGACTACGGCATCCGGAATCGAGACGAGG TTTCCTTCATCAAAAAGCTGAGGCAAAAG<u>TGA</u>GCCTCCAGACAGGACAACCCTCTTCATCACTGGTGGCTGAGCT TTTTCCCAGCAGGAATGGGTCCTCGAATCATCGTGCCTCTTTCACAGAAAGGACGTTGTGGTGGCCTCACCCCAG TTTCATGTACTTGGCCTGAGACTGACCTCTCCCTAGGTCCAAATGCCCTAGTCACATGGCAGACCCACGGCCTGG

 ${\tt MDVFQEGLamvvQdpllcdlpiQvtleevnsQialeygQamtvrvckmdgevmpvvvvQsatvldlkkaiQryvQlkQereggiQhiswsyvwrtyhltsagekltedrkklrdygirnrdevsfikklrQk}$

TTCCCATCCGCACCAGCAAGAGGGGCCCCTGTGCCCCAAACGCGAACCGTACGGCTCCAGACAGCACCGCGGAAC TCGGTGGCTTCCAGAAGGCCCCGCGCCTGCGCATTCCGCTGCCCTGCGCCTGCGCCTGCGCCTGCGCCTTCTCCC GGCCGCCGCCTTAGCACCTCCTCCGGACGGTGTCGCCGAAGTCTCGCGAGCCCGGAGCGTGGCACGTGGGCCCCC TCCGCCTCCGGCTCCGTCCTCTGGCCCCCTCCGCCCCCGGCCCCACGGCGGGATGCGGGACAACAC CAGCCCCATCAGCGTGATTCTGGTGAGCTCGGGGAGCAGGGGCAATAAGCTGCTGTTCAGGTACCCCTTCCAGAG AAGCCAGGAGCACCCGGCGTCCCAGACAAGTAAGCCGCGTAGCAGATACGCTGCCAGCAACACGGGCGACCATGC TGATGAGCAGGACGGCGATTCCAGGTTTTCAGATGTTATTCTGGCAACAATTTTGGCAACCAAGTCTGAAATGTG TGGCCAAAAATTTGAACTGAAGATTGATAATGTGCGATTTGTTGGGCACCCAACACTGCTACAGCATGCTCTGGG GCAGATCTCCAAAACAGATCCTTCCCCGAAGAGGGAAGCACCTACTATGATTCTTTTTAATGTGGTGTTTGCACT GAGGGCCAACGCAGACCCGTCAGTGATAAACTGTCTGCATAACCTGTCCCGTCGTATCGCCACCGTGCTGCAGCA CGAGGAGCGCCGCTGCCAGTACCTCACCCGGGAGGCCAAGCTGATCCTGGCGCTCCAGGATGAGGTGTCCGCCAT GGCTGATGGAAATGAAGGTCCTCAGTCCCCATTCCATCACATCCTGCCCAAGTGCAAGCTGGCCAGGGACCTCAA CCTGCCCCACAGATCCACTATGCGGCCTCCAGTCTGATCCCCCCAGAGGCCATCGAACGGAGCCTGAAAGCCAT CCGCCCCTACCATGCCCTGCTGCTCAGTGATGAGAAGTCCTTGCTGGGTGAGCTTCCTATTGACTGCTCCCC TGCCCTAGTGCGGGTGATCAAGACCACATCTGCTGTGAAGAACCTGCAGCAGCTAGCCCAAGATGCGGACCTGGC CTTGCTGCAGGTTTTCCAGCTTGCAGCTCATCTGGTGTACTGGGGCAAGGCCATCATCATCTACCCGCTGTGTGA GAACAACGTCTACATGCTGTCTCCCAATGCCAGCGTATGTCTGTACTCCCCGCTGGCCGAGCAGTTCTCCCACCA GTTCCCATCTCATGACCTGCCGTCCGTTCTTGCCAAGTTCTCCTTGCCGGTCTCCTTGTCAGAATTTAGGAATCC CCTGGCCCCCGCTGTGCAGGAGACCCAGCTCATCCAGATGGTGGTGGATGCTGCAGCGCCGGCTTCTCATCCA GCTGCACACCTATGTCTGCCTGATGGCCTCACCCAGCGAGGAGGAGCCCCGTCCGCGAGAGGACGACGTCCCCTT CACTGCCCGGGTCGCGGTCGCAGCCTCAGCACGCCCAACGCCTCAGCTTTGGCTCCCCAACCAGCAGCGATGA CATGACCCTCACCAGCCCCAGCATGGACAACTCCAGCGCAGAGCTACTTCCCAGCGGGGACTCGCCACTGAACCA GAGGATGACGGAGAACCTGCTGGCCAGCTGTCGGAGCATGAACGCGCAGCCATCCTCAGTGTACCCGCAGCCCAG AACCCTGAGGACCTCCGCATGTTTGCCAGGCTCCTTCACTACTTCCGCGGCCGCCACCACCTGGAGGAGATTATG TACAACGAGAACACGCGGCGCTCCCAGCTGCTCATGCTGTTTGACAAGTTCCGCAGCGTGCTGGTGACCACC CACGAGGACCCTGTCATTGCCGTCTTCCAGGCTCTGCTCCCCTGAGCCCAGGCGGAGGGCGGAAGGCTGCTGGGG TGCGCAGGTGGGCGCTCGCGTCTCCCCACCCCAGGGCTCCCCCGTGCTGAGGCTGAGCCCTCTTGGCCCTGAGG CCTGGCATTGGGTGGATGCGGGCTGGCCCAGTGAAGCCTGCAGAGCCCCGCTGTCCTTGCCCCTGGTGG TTCCGCTGTGGGGCTGCCCCTCTGTGTTCCTACGCTTCCCTCCAGTCCTTGCCGCACGCGTAGGCATCTCCAC GCTGGAGGGGGGCCTGCCAGGACTCCTGTCTCTGGGTGAGGCCGCATCCTTCAAGGCCCATGTGGGCTGTGCGTT TCTCAGACCCTCCTTCTGTCCCTACACCTGCTCCTTGGACCCCCCAGTCTGTGGCCACCCTGAAGAATGTGCAGA CCTCTGTCTGCCATGCGCTTCTTCCTCCCAGGCTACCCTGAGCCTTTCCTGGCCCAGTCCTCACCACAGTCCACA GAAGCCGCAAACAGGCTCATAGCCAAGCTGTGACCTGGTCCTGACCATCTGGGGCACGAGGGCCTGGGCTGGCCC TGCTAGGCTGGAGAAGCCCTGTCACCTGTGCACATCTTGCTGGTGGAGGCATGGCCCACTGTGCAGGACCCCACC CTCGGGGGCTTTCGGCTCCCACACTGATGATTCTCCCCAGCATCCACACCGGGCCTGGCGCTACGTACTCAGGCC CCCAGCTCTCGTGTCCTGGAGGAAGAGCTAGCTCCAGACATGGGTTGATCACCTAGAGGAĢCTCTGGCTAAGGCA GGACCCTGGCCAGAAGAGCCCTGGCCCTCCAGCAAGGCAGCACCTGCTCTGATGCACCTGTGCACCCCTGGCCCT CCCAGCCACCTGGGAGTCCGAAGCTTAGCCTGGAGGTGGCCAAGCCAGTCCCTACTCTTGGGCTGCGGCCACGTG AGGCTCCGCATCAGCAGCCAGGGGCGAGCACTAGTGGACAAAGCCAGCAAATGCGGCGTTCCTGTGAGCAGATAC CCTCAACCAGCCAGCTGTCAAAAGTATTTCAAGATAAAATCCAGGCCAAGC

 ${\tt MVLSPADKTNVKAAWGKVGAHAGEYGAEALERMFLSFPTTKTYFPHFDLSHGSAQVKGHGKKVADALTNAVAHVDDPNALSALSDLHAHKLRVDPVNFKLLSHCLLVTLAAHLPAEFTPAVHASLDKFLASVSTVLTSKYR}$

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4725/6881 FIGURE 4357

 ${\tt MVLSPADKTNVKAAWGKVGAHAGEYGAEALERMFLSFPTTKTYFPHFDLSHGSAQVKGHGKKVADALTNAVAHVD} \\ {\tt DMPNALSALSDLHAHKLRVDPVNFKLLSHCLLVTLAAHLPAEFTPAVHASLDKFLASVSTVLTSKYR}$

TCCGCCGGCTACC<u>ATG</u>TCCGCCCAGGCGCAGATGCGGGCCCTGCTGGACCAGCTCATGGGCACGGCTCGGGACGG AGACGAAACCAGACAGAGGGTCAAGTTTACAGATGACCGTGTCTGCAAGAGTCACCTTCTGGACTGCTGCCCCA TGACATCCTGGCTGGGACGCGCATGGATTTAGGAGAATGTACCAAAATCCACGACTTGGCCCTCCGAGCAGATTA TGAGATTGCAAGTAAAGAAAGAGACCTGTTTTTTGAATTAGATGCAATGGATCACTTGGAGTCCTTTATTGCTGA ATGTGATCGGAGAACTGAGCTCGCCAAGAAGCGGCTGGCAGAAACACAGGAGGAAATCAGTGCGGAAGTTTCTGC AAAGGCAGAAAAAGTACATGAGTTAAATGAAGAAAATAGGAAAACTCCTTGCTAAAGCCGAACAGCTAGGGGCTGA AGGTAATGTGGATGAATCCCAGAAGATTCTTATGGAAGTGGAAAAAGTTCGTGCGAAGAAAAAAGAAGCTGAGGA AGAATACAGAAATTCCATGCCTGCATCCAGTTTTCAGCAGCAAAAGCTGCGTGTCTGCGAGGTCTGTTCAGCCTA CCGAGAGAGCTTGATCAGTTGAGGAAAACTGTCGCTGAAAAGCAGGAGAAGAGAAATCAGGATCGCTTGAGGAG GAGAGAGGAGAGGGAACGGGAGGAGCGTCTGAGCAGGAGGTCGGGATCAAGAACCAGAGATCGCAGGAGGTCACG CTCCCGGGATCGGCGTCGGAGGCGGTCAAGATCTACCTCCCGAGAGCGACGGAAATTGTCCCGGTCCCGGTCCCG AGATAGACATCGGCGCCACCGCAGCCGTTCCCGGAGCCACAGCCGGGGACATCGTCGGGCTTCCCGGGACCGAAG ${\tt TGCGAAATACAAG} \underline{{\tt TAA}} {\tt CTACTCTGACTCCTTCGGTAGCTGCAACCAGGAGTGAGCCCTTCTCTGTGTTCCCAGGG}$ ACTCAGGTGTGGGAAGAGGCGAGAGGGCTGTGGAGGAGCTCGCACGGCGCCAGGTGATGGGCTGCACAGGCACTG TCCCCTGCCTGCGTCCTGGGGCCTGTGCACTGTTGCGTCCATGCTCAGAGTGGCTGAGACTTGTGTCCTGACCAG TGTGCATATAGTGTTGTATTCTCCTTTGCACTGTTTATGTTACAGTGAAGGCTCTCCTTATTAAAAATCTTCGCA AAGGTCAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

MSAQAQMRALLDQLMGTARDGDETRQRVKFTDDRVCKSHLLDCCPHDILAGTRMDLGECTKIHDLALRADYEIAS KERDLFFELDAMDHLESFIAECDRRTELAKKRLAETQEEISAEVSAKAEKVHELNEEIGKLLAKAEQLGAEGNVD ESQKILMEVEKVRAKKKEAEEEYRNSMPASSFQQQKLRVCEVCSAYLGLHDNDRRLADHFGGKLHLGFIQIREKL DQLRKTVAEKQEKRNQDRLRRREEREERLSRRSGSRTRDRRRSRSRDRRRRSRSTSRERRKLSRSRSDRHR RHRSRSRSHSRGHRRASRDRSAKYK

 ${\tt MRTLDLIDEAYGLDFYILKTPKEDLCSKFGMELKRGMLLRLARQDPQLHPEDPERRAAIYDKYKEFAIPEEEAEW} \\ {\tt VGLTLEEAIEKQRLLEEKDPVPLFKIYVAELIQQLQQQALSEPAVVQKTASGQ}$

4730/6881 FIGURE 4362A

GCACCGCGGCTGAGGAGCCGGAGGCCGTCCGGGCAGCGCGGCGGCGAGAGGGGCCCCCGCCGCTCTCCGGAG AGGCGGCGCCGGGCTGTGGAGGCAGCCCAGACGCGGCACAGAGAGGGCCTGGGAGCTTGCTGCAGCTTC AGACAGGGAGCCAGGATGGGAACCACGGACTGACCTGCGTCCTCGGGGCCACTGCACTGGGTGATTCACG CGGCACAAGCCCGACCTCAACCACATCCTGCGGCTCAGCGTGGAGGAGCAGAAATGGCCCTGCGCCCGCTGCACC TTCCGCAACTTCCTGGGCAAGGAGGCCTGCGAGGTGTGCGGCTTCACCCCGGAGCCTGCGCCTGGGGCTGCCTTC CTGCCAGTCCTCAACGGGGTCCTCCCCAAGCCACCCGCCATCCTGGGGGAGCCCAAGGGCAGCTGCCAGGAGGAA GCAGGTCCAGTGAGGACTGCGGGGCTGGTGGCCACGCAGCCCGCCAGGGGCAGTGCGAGGACAAGGACGAGGAG GAGAAGGAGGAGGAGGAGGAGGAGGGGGGGGGGCCCAGAGGGGGCCTGGGCGTGCCGCGTTGCACGCTG CACAACACGCCCGTGGCCAGCTCCTGCTCCGTCTGCGGGGGCCCACGCAGGCTCTCGCTGCCACGGATCCCTCCT CCCGGGGAAGGTGCCGAGGCCAACCCCCAGCCAGCCAGGGCCCAGGTGCCGAACCAGAGCCGCCCAGGGTC CTGCAGCCACCGGTGCCTGAGGCTGCCCAGCCGTCACCCTCTGCCGGCTGCAGGGGAGCCCCCCAGGGCTCGGGC TGGGCTGGGGCCTCCCGCCTAGCAGAGTTGCTGTCTGGCAAGCGGCTGAGTGTGCTGGAGGAAGAGGCCACGGAG GGTGGCACCAGCCGCGTAGAGGCCGGCAGCTCCACCTCGGGCAGTGACATCATTGACCTGGCCGGAGACACCGTG CGTTACACGCCCGCCAGCCCCCGACTTCACCACCTGGTCATGTGCCAAGTGCACGCTCAGAAACCCC ACAGTGGCCCCAGGTGCTCGGCCTGCGGCTGCTCCAAACTGCACGCCTTCCAGGAGCATGGCGAGCCCCCCACC CACTGCCCGACTGTGGGGCCGACAAGCCCAGCCCTTGCGGCAGAAGCTGCGGACGGGTGTCCTCGGCCCAGAAG GAGAGCATGCACGTGGAGCAGCGGCGGCAGACAGACGAGGCCGAGGCCAAGGCACTCTGGGAGAACATCGTGGCC GGTGACAGCGTGCAGCAGCGTGTGAGGCAGTGGCTGCGACCCCAGGAGATCAACTGCTCCGTCTTCAGGGACCAC AGGGCCACGTGGTCTGCTGCTCCACACACTGCGGCCCTCAGACATCCTGCAGGGGCTGCTGGGGAACTGCTGGTTC CTGAGCGCCCTGGCGGTGCTGGCGGAGCGGCCGGACCTGGTGGAGCGGGTGATGGTCACGCGCAGCCTGTGTGCA GAGGGCGCCTACCAGGTGCGGCTGTGCAAGGACGGCACGTGGACCACGGTGCTGGTGGACGACATGCTGCCCTGT GCCAAGCTGCACGGCTCCTACTTTGCGCTCCAGGCGGGCCGCCCATCGAAGGCCTGGCCACGCTCACCGGCGCC CCCTGTGAGAGCCTGGCGCTGCAGCTCCACTAACCCCGGGAGGAGCCCGTTGACACTGACCTCATCTGG GCCAAAATGCTGAGTTCTAAGGAGGCTGGGTTCCTCATGGGTGCCTCCTGTGGCGGGGGCAACATGAAGGTGGAC GATTCGGCCTACGAGAGCCTGGGCCTGCGCCCCGGCATGCCTACTCCATCCTGGATGTCCGAGATGTCCAGGGC ACCAGGCTTCTGCGGCTCCGAAACCCGTGGGGCCGTTTCTCCTGGAACGGCAGCTGGTCCGACGAGTGGCCACAC TTTGTCAGGTACTTCGACTCCGTGGACATCTGTAAGGTGCACTCGGACTGGCAGGAGGCGCGGGTGCAGGGCTGC TTTCCCAGCTCGGCCAGCGCCCCGTGGGGGTAACAGCGCTCACGGTGCTGGAGCGGGCCTCGCTGGAGTTCGCG CTCTTCCAGGAGGCAGCAGGCGCTCGGACGCCGTGGACACCTGCTGGACCTGTGCATCCTGGTGTTCCGG GCCACGTTCGGCAGCGGCCGCCTCAGCCTGGGCCGCCTCCTGGCCCACAGTAAGCGCGCGGTCAAGAAGTTC GTCAGCTGCGACGTCATGCTGGAGCCTGGCGAGTACGCTGTGGTGTGCTGCGCCTTCAACCACTGGGGGCCGCCC CTGCCGGGCACCCCTGCCCCCAGGCCTCCAGCCCCTCGGCAGGGGTCCCGAGAGCCTCCCCAGAGCCGCCGGGC CACGTGCTGGCTGTTACAGCTCGAGGCTGGTCATGGTGGAGCCCGTGGAAGCCCAGCCGACCACGCTGGCCGAC GCCATCATCCTGCTCACCGAGAGCCGCGGAGAGCGGCACGAGGGCCGTGAGGGCATGACCTGCTACCTGACA CACGGTTGGGCGGGGCTCATCGTGGTGGTGGAGAACCGACACCCCAAGGCCTACCTGCACGTGCAGTGTGACTGC ACCGACAGCTTCAACGTGGTGTCCACACGCGGCAGCCTGCGTACCCAGGATAGCGTGCCACCCCTGCACAGGCAG GCCCAGGCCTTCCTCAGTGACTGGACAGCCTCCAAGGGGACCCACAGCCCCCCACTCACGCCAGAGGTCGCCGGT

PCT/US2003/028547

4731/6881 FIGURE 4362B

MATVGEWSCVRCTFLNPAGQRQCSICEAPRHKPDLNHILRLSVEEQKWPCARCTFRNFLGKEACEVCGFTPEPAP
GAAFLPVLNGVLPKPPAILGEPKGSCQEEAGPVRTAGLVATEPARGQCEDKDEEEKEEQEEEGAAEPRGGWACP
RCTLHNTPVASSCSVCGGPRRLSLPRIPPEALVVPEVVAPAGFHVVPAAPPPGLPGEGAEANPPATSQGPAAEPE
PPRVPPFSPFSSTLQNNPVPRSRREVPPQLQPPVPEAAQPSPSAGCRGAPQGSGWAGASRLAELLSGKRLSVLEE
EATEGGTSRVEAGSSTSGSDIIDLAGDTVRYTPASPSSPDFTTWSCAKCTLRNPTVAPRCSACGCSKLHGFQEHG
EPPTHCPDCGADKPSPCGRSCGRVSSAQKAARVLPERPGQWACPACTLLNALRAKHCAACHTPQLLVAQRRGAAP
LRRRESMHVEQRRQTDEGEAKALWENIVAFCRENNVSFVDDSFPPGPESVGFPAGDSVQQRVRQWLRPQEINCSV
FRDHRATWSVFHTLRPSDILQGLLGNCWFLSALAVLAERPDLVERVMVTRSLCAEGAYQVRLCKDGTWTTVLVDD
MLPCDEAGCLLFSQAQRKQLWVALIEKALAKLHGSYFALQAGRAIEGLATLTGAPCESLALQLSSTNPREEPVDT
DLIWAKMLSSKEAGFLMGASCGGGNMKVDDSAYESLGLRPRHAYSILDVRDVQGTRLLRLRNPWGRFSWNGSWSD
EWPHWPGHLRGELMPHGSSEGVFWMEYGDFVRYFDSVDICKVHSDWQEARVQGCFPSSASAPVGVTALTVLERAS
LEFALFQEGSRRSDAVDSHLLDLCILVFRATFGSGGHLSLGRLLAHSKRAVKKFVSCDVMLEPGEYAVVCCAFNH
WGPPLPGTPAPQASSPSAGVPRASPEPPGHVLAVYSSRLVMVEPVEAQPTTLADAIILLTESRGERHEGREGMTC
YYLTHGWAGLIVVVENRHPKAYLHVQCDCTDSFNVVSTRGSLRTQDSVPPLHRQVLVILSQLEGNAGFSITHRLA
HRKAAQAFLSDWTASKGTHSPPLTPEVAGLHGPRPL

 $\tt AGGAGGGCGCGCACGGCTGGCGGCGGGAAGCCCCGAGAGGCCCGAGCGCGCAGGAGCTCAAGGAGC$ AGGGCAATCGTCTGTTCGTGGGCCGAAAGTACCCGGAGGCGGCGGCCTGCTACGGCCGCGATCACCCGGAACC CGCTGGTGGCCGTGTATTACACCAACCGGGCCTTGTGCTACCTGAAGATGCAGCAGCACGAGCAGGCCCTGGCCG ACTGCCGGCGCCCTGGAGCTGGACGGCAGTCTGTGAAGGCCGCACTTCTTCCTGGGGCAGTGCCAGCTGGAGA TGGAGAGCTATGATGAGGCCATCGCCAATCTGCAGCGAGCTTACAGCCTGGCCAAGGAGCAGCGGCTGAACTTCG GGGACGACATCCCCAGCGCTCTTCGAATCGCGAAGAAGAAGCGCTGGAACAGCATTGAGGAGCGGCGCATCCACC $\tt AGGAGAGCGAGCTGCACTCCTACCTCCCAGGCTCATTGCCGCGGAGCGTGAGAGGGGAGCTGGAAGAGTGCCAGC$ GAAACCACGAGGGTGATGAGGACGACAGCCACGTCCGGGCCCAGCAGCCTGCATTGAGGCCAAGCACGACAAGT ${\tt ACATGGCGGACATGGACGAGCTTTTTTCTCAGGTGGATGAGAAGAGGGAAGAAGCGAGACATCCCCGACTACCTGT}$ GTGGCAAGATCAGCTTTGAGCTGATGCGGGAGCCGTGCATCACGCCCAGTGGCATCACCTACGACCGCAAGGACA ${\tt TCGAGGAGCACCTGCAGCGTGGGCCATTTTGACCCCGTGACCCGGAGCCCCCTGACCCAGGAACAGCTCATCC}$ CCAACTTGGCTATGAAGGAGGTTATTGACGCATTCATCTCTGAGAATGGCTGGGTGGAGGACTAC**TGA**GGTTCCC TGCCCTACCTGGCCGTCCTGGTCCAGGGGAGCCCTGGGCAGAAGCCCCCGGCCCCTATACATAGTTTATGTTCCTG GCCACCCCGACCGCTTCCCCCAAGTTCTGCTGTTGGACTCTGGACTGTTTCCCCTCTCAGCATCGCTTTTGCTGG GCCGTGATCGTCCCCCTTTGTGGGCTGGAAAAGCAGGTGAGGGTGGGCTGAGGCCATTGCCGCCACTATC TGTGTAATAAAATCCGTGAGCACGA

MKGKEEKEGGARLGAGGGSPEKSPSAQELKEQGNRLFVGRKYPEAAACYGRAITRNPLVAVYYTNRALCYLKMQQ HEQALADCRRALELDGQSVKAHFFLGQCQLEMESYDEAIANLQRAYSLAKEQRLNFGDDIPSALRIAKKKRWNSI EERRIHQESELHSYLSRLIAAERERELEECQRNHEGDEDDSHVRAQQACIEAKHDKYMADMDELFSQVDEKRKKR DIPDYLCGKISFELMREPCITPSGITYDRKDIEEHLQRVGHFDPVTRSPLTQEQLIPNLAMKEVIDAFISENGWV EDY

GCCTGGACTGCACGGCCCGGCAGCAGGTTGGTCTTGGCGTGGGCGTGGGCGCGGGAGGGGCTCGGAGCCAGGGTC GCGCTGCGGGCAGACCTGGCTGCCGGGCCTGGTAGTGCTGCAGCCCCTCCCCGCCCCCACCGTCGGGCAGAGGCA TTCACGTGCATCCCCTGGAGGGGAGGGTCTGTGGGGAGGATCTGTGGGGCAGGTTTGGAACGGGCTCTTTCTCCA GGCTTAGGTCAGGCAGGGCCCTTCAGGTCAGCCCGGAGCAGGCTGACTCCTTGACTCCCAGCTGACGCCCTGGG GACTGATCTCGGGGGACTGAGGATGCAGGTGCACAGTAGGGCTGCGGACCCGGCTCGGTGGCTTCGCACCGGAGCC GTGGCTCGGCAGGCCGGCCATGCAGCCAGCAGCAGCAGCAGCAGCCTGTCCATCGTGTACCGGAGCCGCGACTTCCT GGTGGTCAACAAGCACTGGGACGTTCGCATTGACAGCAAGGCGTGGCGGGAGACTCTGACCCTGCAGAAGCAGCT GCGGTACCGCTTTCCCGAGCTGGCCGACCCTGACACCTGCTACGGGTTCAGGTTCTGCCACCAGCTGGATTTCTC CGTGACCAAGGCTTACCTGGCATTGCTGCGGGGGCACATCCAGGAGAGCCCGGGTAACCATCAGCCATGCCATTGG CAGGAACAGCACGGAGGGCCGGGCCCACACCATGTGCATCGAGGGCTCGCAGGGTTGTGAGAACCCAAAGCCAAG CCTCACAGATCTCGTGGTTCTGGAACACGGGCTGTACGCAGGCGATCCTGTCTCCAAAGTGCTGCTGAAGCCGCT ${\tt CACGGGCCGGACACCACCTGCGCTGCACTGCACTGCCCTGGGCCACCCCGTGGTGGGCGACCTGACCTACGG}$ AGAAGTCTCGGGCCGGGAGGACCGGCCGTTCAGAATGATGCTGCACGCTTTCTACCTGCGCATCCCCACGGACAC GCAGTCGCTGGACCAGCCCTGACCCCGAGGATAGGGGCCCCAGGCC ACAGCGGGGCCCTGCCTGCAGTGGCTGTCGGAGTGGACGCTGGAACCGGACAGCTGAGAGCCGTGGGGCTGGGG GAGGTGCCAGGCAGCATCAGGCCCACTGGGTTGCCCCGGCCAGGCCTGCGAGGAAGGGCTGAGGTGGGGCCGGCA GGGGCCCCAGGCAGCCGTGATCACAGGTGACGACCGCACCGCGGCCGTGGGACTGATGCGGGATCCCGAGGGCC TTCCTGCCCACATGCCCCGGGAGAAACCGAGGCCCCTCCTCCTGGAACAGCTTCCGGCTCTCAAGCGTCAC CCCAGGGGCGTCAGTTTTACGGACTCAAGGTCACCTCAGGAAGAGGCCAGGCCAGGTTTTGGGATAGGCTTTGCC TCCAGGATGGGCTGCTCCTGGGCCTGGTGAGCTACTGCCCCCAACCTACCCTCTAGAGGGGCTGGGAAGGGCCGT TCTGGGCTCACCTGGCCTGGGAGACCCATCTGGTCCCTGCGTCCTCTGCCCCTCACTGCTCTGTGCAGATCCTGT CGCCCTCAGCTGCCTCCCCGAGACCTAATGGTCCCTGCTGGGCTCGAGTCTGCAGGCCCGGCTGCGTGTGCCT TGGCCTCACTGTACCAGTGGTTCCCTCTCTGCCCGGATTCTGAGCTCAGTGTGGTGTTTTGGTGCACAGGGGTTGG TCAGGGGCCATGGCCAAGGCCCTGCCACGCCCATCCCTCAGATCCACTGTGAGCACCAACCTGCTGCAGTC TCTTGGGCCCCTGCTGGCAGCTCTGCCACGCCTGCCTGGCTCCCACACAGCCATGCATTGTCACTCTGC CTCCGGGACCCCAGCTTGGGAGCTGTGGGTCTGCCAGGTCCCACCTCCTCTTTCCCCCATGCCACAACCTGGGCT CCTGGCTACAGCAGGGCTCCAGGGACTCCAAATAAATGTTCAGTGACTGGCTCCAAGGATGAC

MEPGSVENLSIVYRSRDFLVVNKHWDVRIDSKAWRETLTLQKQLRYRFPELADPDTCYGFRFCHQLDFSTSGALC VALNKAAAGSAYRCFKERRVTKAYLALLRGHIQESRVTISHAIGRNSTEGRAHTMCIEGSQGCENPKPSLTDLVV LEHGLYAGDPVSKVLLKPLTGRTHQLRVHCSALGHPVVGDLTYGEVSGREDRPFRMMLHAFYLRIPTDTECVEVC TPDPFLPSLDACWSPHTLLQSLDQLVQALRATPDPDPEDRGPRPGSPSALLPGPGRPPPPPTKPPETEAQRGPCL QWLSEWTLEPDS

GATGATTTCCACAACCAGTTCGCGGCCGAGCTGGAGGTGCTGGCAGAGCTGGAAGGGGGCGTCGACTCCGTCGCCC TCCGGGGTCCCCTGTTCACCGCGGGCCGACCCCCGCGGACGTTCGAGGAGGCCCTTGCCAGAGGGGACGCCGCC CAGCCGGCCGGGTCCCTGCCCCACGGTAGGTTGGCGGCATTGCCCCAGGGCCTCCGGAGTGGGCGAGGCTGAG GAGGCCTCTGGTTCCCTGCATGTGTCTCCCCCAGCCCCCAGGATCAAACGGCCTAGGCTGCAGGTGGTCAAGAGG AGCCCTGAGGACCTCGCAGAGCTTTGGGGCCACGGAGTCTCAGAAGCTGCTGCCGACGTGGGTCTCACACGGGCC TCACCAGCTGCCCGCAATCCCGTCCTGAGGCGGCCCCCCATCTTGGAGGACTACGTCCACGTGACATCCACGGAG GGCGTCCGGGCTTATCTGGTGCTGCGTGCTGACCCCATGGCCCCGGGGGTGCAGGGCTCTCTCCTCCACGTCCCA TGGCGAGGCGGTGGCCAGCTGGACCTGCTGGGTGTCCTTAGCCTCCCTGAAGAAGCAGGTCGACGGCGAGCGG CGGGAGCGGCTGCTTCAGGAGGCCCAGAAGCTTTCAGACACCCTGCACAGTCTCAGGTCGGGGGAGGAGGAGGCA GCCCAGCCCTTGGGGGCCCCTGAGGAGGAGCCGACTGACGGTCAAGACGCCTCCAGTCACTGCCTCTGGGTGGAT TTGTGGGACCTGGTGGTGTTTGGCCACGAGAGGCCTTCCCGGAAGCCCAGGCCCAGTGTTGAGCCGGCCCGGGTC AGCAAGGAGGCCACAGCCCCAGGCAAGTGGAAGAGCCCACGAACAGGTGCTGGAGGAGATGCTGGAGGCTGGGCTG GACCCGAGCCAGCGACCGAAGCAGAAGGTGGCACTGCTCTGTGGGCCCCCGGGGCTGGGGAAGACCACCCTGGCA CACGTGATTGCGCGTCACGCGGGGTACTCTGTGGTGGAGATGAACGCCAGTGACGACCGTAGCCCGGAGGTCTTC CGCACACGCATCGAGGCGGCCACCCAGATGGAGTCGGTGCTGGGTGCTGGCGGGAAGCCCAACTGCCTGGTCATC GATGAGATCGACGGGGCCCCCGTGGCCGCCATCAACGTCCTCCTGAGCATCCTGAACCGCAAGGGGCCCACAGGAG GTGGGGCCACAGGGCCCGGCTGTGCCTTCGGGAGGCGGCCGACGGCGCCGGGCAGAGGGGGGGCTCCTCATGAGG CCCATTATCTGCATTTGCAATGACCAGTTCGCACCGTCCCTGCGGCAGCTGAAGCAGCAGGCCTTCCTGCTCCAC TTCCCGCCGACTCTGCCCTCGAGGCTGGTGCAGCGGCTCCAGGAGGTCTCCCTGCGGCAGGGCATGAGGGCCGAC CCAGGGGTGCTGGCCGCCCTCTGTGAGAAAACTGACAATGACATCCGGGCCTGCATCAACACCCTGCAGTTCCTG TACAGCCGGGGCCAGCGGAGCTGAGCGTGCGGACGTGCAGGCCACACGCGTGGGCCTCAAGGACCAGCGCAGA GGGCTCTTCTCGGTGTGGCAGGAGGTCTTCCAGCTGCCTCGAGCCCAGAGGCCCCGTGTGGGCCAGGACCCCGCC CTGCCTGCTGACACACTCCTGCTGGGTGACGGGGACGCGGGCTCCCTCACCTCCGCCTCACAGCGATTCTACCGT GTCCTGCATGCCGCTGCCTCTGCGGGCGAGCACGAGAAGGTGGTCCAGGGCTTGTTTGACAACTTCCTGCGTCTG CGGCTGCGAGACTCCAGCCTGGGTGCTGTGTGTGTGGCCCTCGACTGGCCTGGCCTTCGATGACCTGCTGGCGGGG GCTTCCAGCCACACCCCAGGATCACCTTCCCCAGCAGCCAGGAGGCCCAGAACCGGATGAGCCAGATGAGG GATGCCCTCTGCCTCCTGGACATTCTTGCACCCAAGCTCCGCCCCGTGAGCACACAGCTGTACAGCACCCGT GAAAAGCAACAGCTGGCCAGCCTGGTGGGCACGATGCTCGCTTACAGCCTGACCTACCGCCAGGAGCGCACGCCC GCCCGGGTAGAGAACAGCCCCCAGGTGGATGGGAGCCCCCCAGGGCTCGAGGGTCTGCTGGGGGGCATTGGGGAG AAAGGGGTGCACCGACCTGCCCCACGCAACCATGAGCAGCGGCTGGAGCACATCATGAGGCGAGCGGCCCGGGAG GAACAGCCTGAGAAGGACTTCTTTGGACGTGTGGTCGTCAGGAGCACAGCAGTCCCGAGTGCAGGGGACACGGCC CCGGAGCAGGACTCAGTGGAGCGGCGCATGGGCACAGCGGTGGGCAGGAGCGAGGTCTGGTTCCGCTTCAACGAG ${\tt GGTGTCTCCAACGCCGTGCGGCGCAGCCTGTACATCAGGGACTTGCTC} {\color{red}{\bf TAG}} {\tt TTCTCTGAGCCGCGGACATGCCCT}$ CGCATTGCTTCCCGCAGAGTGCAGAGACAGGAAGCTGGAGATGTCTTTATAAAGTCACACCTTTACAGACTGT

WO 2004/030615 PCT/US2003/028547

4738/6881 FIGURE 4369

MEDYEQELCGVEDDFHNQFAAELEVLAELEGASTPSPSGVPLFTAGRPPRTFEEALARGDAASSPAPAASVGSSQ GGARKRQVDADLQPAGSLPHGRLAALPQGLRSGREAEEASGSLHVSPPAPRIKRPRLQVVKRLNFRSEEMEEPPP PDSSPTDITPPPSPEDLAELWGHGVSEAAADVGLTRASPAARNPVLRRPPILEDYVHVTSTEGVRAYLVLRADPM APGVQGSLLHVPWRGGGQLDLLGVSLASLKKQVDGERRERLLQEAQKLSDTLHSLRSGEEEAAQPLGAPEEEPTD GQDASSHCLWVDEFAPRHYTELLSDDFTNRCLLKWLKLWDLVVFGHERPSRKPRPSVEPARVSKEATAPGKWKSH EQVLEEMLEAGLDPSQRPKQKVALLCGPPGLGKTTLAHVIARHAGYSVVEMNASDDRSPEVFRTRIEAATQMESV LGAGGKPNCLVIDEIDGAPVAAINVLLSILNRKGPQEVGPQGPAVPSGGGRRRRAEGGLLMRPIICICNDQFAPS LRQLKQQAFLLHFPPTLPSRLVQRLQEVSLRQGMRADPGVLAALCEKTDNDIRACINTLQFLYSRGQRELSVRDV QATRVGLKDQRRGLFSVWQEVFQLPRAQRRRVGQDPALPADTLLLGDGDAGSLTSASQRFYRVLHAAASAGEHEK VVQGLFDNFLRLRDSSLGAVCVALDWLAFDDLLAGAAHHSQSFQLLRYPPFLPVAFHVLFASSHTPRITFPSS QQEAQNRMSQMRNLIQTLVSGIAPATRSRATPQALLDALCLLLDILAPKLRPVSTQLYSTREKQQLASLVGTML AYSLTYRQERTPDGQYIYRLEPNVEELCRFPELPARKPLTYQTKQLIAREIEVEKMRRAEASARVENSPQVDGSP PGLEGLLGGIGEKGVHRPAPRNHEQRLEHIMRRAAREEQPEKDFFGRVVVRSTAVPSAGDTAPEQDSVERRMGTA VGRSEVWFRFNEGVSNAVRRSLYIRDLL

<u>ATCGGTAGCCGGGCGGGGCCGGGGCCGCCGCTTAAAGAAACTTGTTGCGGGTCCCGCAGCGGGACC</u> CGACCGCAGGGCAGCCCCGGCCCCGGTGCGCGTCTCCTGTGCGCGCCCCTCCGCGCGCGCCCCGATG CTGGACATGAGCGAGGCCCGCTCCCAGCCGCCCTGCAGCCCGCCACCCGCAGCTCCATGTCGCACGTGGAG GACTCGGACTCGGACGCCGCCGTCTCCCGCCGGCTCCGAGGGCCTGGGCCGCGGGGGTCGCGGTGGGGGGC GCCCGGGGCGACCCGGCGGAGGCGGCGACGACGCCTTCCCGGCCTGCATCCGCGACGCCGTGTCGCAGGTGCTC CTGCACAACGCCGAGCTCAGCAAGACGCTGGGCAAGCTGTGGCGCTTGCTGAGCGAGAGCGAGAAGCGGCCCTTC GTGGAGGAGGCAGAGCGCCTTCGCGTGCAGCACAAGAAGGACCACCCCGACTACAAGTACCAGCCACGCCAGG TACAAGGCTGAAGCAGGGCTTGGAGATGGGCACCACCATGGCGACCACAGGGCAGACCCACGGGCCGCCCACC GTGGACAGCGGGCGCCAGAACATCGACTTCAGCAACGTGGACATCTCGGAGCTCAGCAGCGAGGTCATGGGCACC ATGGACGCCTTCGACGTCCACGAGTTCGACCAGTACCTGCCCCTGGGCGGCCCCGCCCCACCCGAGCCGGGCCAG GCCTATGGGGGCGCCTACTTCCACGCCGGGGCGTCCCCCGTGTGGGCCCACAAGAGTGCCCCGTCGGCCTCCGCG TCGCCCACCGAGACGGGTCCCCCACGGCCGCACATCAAGACGGAGCAGCCCGAGCCCCGGCCACTACGGCGACCAG ${\tt GCCGGCTCACAGGGCGACTATGGCGACCTGCAGGCCTCCAGCTACTATGGTGCCTACCCTGGCTACGCACCCGGC}$ CTCTACCAGTACCCCTGCTTCCACTCGCCGCGCCGCCCTACGCCTCACCCCTGCTCAACGGCCTGGCCCTGCCG $\verb|CCCGCCCACAGCCCCACCAGTCACTGGGACCAGCCGGTGTACACCACCCTGACCAGGCCC| \\ \hline \textbf{TGA} \\$

MGSRARGGAAGPPLKETCCGSRSGTRASAAAAAAAGARVGATARRPRVPERPQGSPGRRPRCASPVRAPPRAAPM LDMSEARSQPPCSPSGTASSMSHVEDSDSDAPPSPAGSEGLGRAGVAVGGARGDPAEAADERFPACIRDAVSQVL KGYDWSLVPMPVRGGGGGALKAKPHVKRPMNAFMVWAQAARRKLADQYPHLHNAELSKTLGKLWRLLSESEKRPF VEEAERLRVQHKKDHPDYKYQPRRKKSAKAGHSDSDSGAELGPHPGGGAVYKAEAGLGDGHHHGDHTGQTHGPPT PPTTPKTELQQAGAKPELKLEGRRPVDSGRQNIDFSNVDISELSSEVMGTMDAFDVHEFDQYLPLGGPAPPEPGQ AYGGAYFHAGASPVWAHKSAPSASASPTETGPPRPHIKTEQPSPGHYGDQPRGSPDYGSCSGQSSATPAAPAGPF AGSQGDYGDLQASSYYGAYPGYAPGLYQYPCFHSPRRPYASPLLNGLALPPAHSPTSHWDQPVYTTLTRP

4741/6881 FIGURE 4372A

GGCACGAGGCCGCGCTTCCCGGCCGGTGTCGCTCCGCGGCGGGCCATCGCCAACGTCTCTAAGAAGGTGTCCTG GCTGCTGAACGGGGCTGGGGCTGCGCGCCAGTCACCACGTTCTGCGCTTTTCCGAGTCGGACATATGAG CAGCGTGGAGCTGGATGAACTTTTTGGACCCGGATATGGACCCTCCACATCCCTTCCCCAAGGAGATCCCACA CAACGAGAAGCTCCTGTCCCTCAAGTATGAGAGCTTGGACTATGACAACAGTGAGAACCAGCTGTTCCTGGAGGA GGAGCGGCGGATCAATCACACGGCCTTCCGGACGGTGGAGATCAAGCGCTGGGTCATCTGCGCCCTCATTGGGAT GGGCAATATCGACAAGTTCACAGAGAAGGGCGGACTGTCCTTCTCCCTGTTGCTGTGGGCCACGCTGAACGCCGC CTTCGTGCTCGTGGGCTCTGTGATTGTGGCTTTCATAGAGCCGGTGGCTGCTGGCAGCGGAATCCCCCAGATCAA GTGCTTCCTCAACGGGGTGAAGATCCCCCACGTGGTGCGGCTCAAGACGTTGGTGATCAAAGTGTCCGGTGTGAT CCTGTCCGTGGTCGGGGGCCTGGCCGTGGGAAAGGAAGGCCGATGATCCACTCAGGTTCAGTGATTGCCGCCGG GATCTCTCAGGGAAGGTCAACGTCACTGAAACGAGATTTCAAGATCTTCGAGTACTTCCGCAGAGACACAGAGAA CAGCTTGGAGGAGGGTGCGTCCTTCTGGAACCAGTTCCTGACCTGGAGGATCTTCTTTGCTTCCATGATCTCCAC GTTCACCCTGAATTTTGTTCTGAGCATTTACCACGGGAACATGTGGGACCTGTCCAGCCCAGGCCTCATCAACTT CGGAAGGTTTGACTCGGAGAAAATGGCCTACACGATCCACGAGATCCCGGTCTTCATCGCCATGGGCGTGGTGGG $\tt CGGTGTGCTTGGAGCAGTGTTCAATGCCTTGAACTACTGGCTGACCATGTTTCGAATCAGGTACATCCACCGGCC$ CTGCCTGCAGGTGATTGAGGCCGTGCTGGTGGCCGCCGTCACGGCCACAGTTGCCTTCGTGCTGATCTACTCGTC ${\tt GCGGGATTGCCAGCCCCTGCAGGGGGGCTCCATGTCCTACCCGCTGCAGCTCTTTTGTGCAGATGGCGAGTACAA}$ CTCCATGGCTGCGGCCTTCTTCAACACCCCGGAGAAGAGCGTGGTGAGCCTCTTCCACGACCCGCCAGGCTCCTA ${\tt CAACCCCTGACCTCGGCCTGTTCACGCTGGTCTACTTCTTCCTGGCCTGCTGGACCTACGGGCTCACGGTGTC}$ TGCCGGGGTCTTCATCCCGTCCTGCTCATCGGGGCTGCCTGGGGCCGGCTCTTTGGGATCTCCCTGTCCTACCT CACGGGGGCGCGATCTGGGCGGACCCCGGCAAATACGCCCTGATGGGAGCTGCTGCCCAGCTGGGCGGGATTGT GCGGATGACACTGAGCCTGACCGTCATCATGATGGAGGCCACCAGCAACGTGACCTACGGCTTCCCCATCATGCT GGTGCTCATGACCGCCAAGATCGTGGGCGACGTCTTCATTGAGGGCCTGTACGACATGCACATTCAGCTGCAGAG GACCTGCCTGAGGCGGCGTGAGAAGGTCGGCGTCATTGTGGACGTGCTGAGCGACACGGCGTCCAATCACAACGG CTTCCCCGTGGTGGAGCATGCCGATGACACCCAGCCTGCCCGGCTCCAGGGCCTGATCCTGCGCTCCCAGCTCAT CGTTCTCCTAAAGCACAAGGTGTTTGTGGAGCGGTCCAACCTGGGCCTGGTACAGCGGCGCCTGAGGCTGAAGGA GGACCTCTCCGAGTTCATGAACCCCTCCCCTACACGGTGCCCCAGGAGGCGTCGCTCCCACGGGTGTTCAAGCT GTTCCGGGCCCTGGGCCTCCGGCACCTGGTGGTGGTGGACAACCGCAATCAGGTTGTCGGGTTGGTGACCAGGAA GGACCTCGCCAGGTACCGCCTGGGAAAGAGAGGCTTGGAGGAGCTCTCGCTGGCCCAGACGTGAGGCCCAGCCCT GCCCATAATGGGCACTGGCGCCCCGGCCCTTCTGCATTTCCTCCCGGAGTCACTGGTTTCTCGGCCCAA CTCGCGGGACTGACCCTGTTGTGGGCAGTGGTCTCCCCCCTTGGCGCCTCCTTGCGCAGGCCCAGCCTCCACTCT GAGCCAGCGGCAGGCCCGCACCTGCGTGCCTGTGCCGTGTGCGTGAGACAGAGCCCTTGCCCCTGCTGCTGCCC CCGAGGGCTGCCTGCCCTGGAAGGGCCCCTCTGCCTCACACCAGTGGAGTCTTCGAGACTTGGGAGCTGCTTG GCCTCATTTTCAGCCATGAGCAGACGGCCTGTGGTCCCTGGGCCTGAGGCACGGACTCGTAGCACCAGGGTTTGG AGGCTGCGACCGCCCGGAGAGCAGCTTCACACTGGCGCCACAGAGGAGCCCCACGTGCACTCCCCGGCCTGCAT CCGGCTTGGGTACACGGGCCCAGAGGACTGGGGTGACTCACGGGCCCTGTGCTGTGATGTTGAGAGCTGAGAAAA ACCTCCAAGGCCCTGAGCCCCATGCCCAGCCCTGCCTTGGTCCCCCAACCCCCAGAGCTTGGAGTCTGGGCCCCA GTGCAGCGGGGCCAGACTCCTGCCGGCCTCAGAGGACACCTGGCCCAGCACAGGCAGCTAGAAGGGCCGGTGGG TGGGGCCGCCACAGGCCCTCACGGGGCGGCAGAGGCAACTTCAGTGTCCCTGTTAGAGCAACACGGGTCCCTCC

4742/6881 FIGURE 4372B

MANVSKKVSWSGRDRDDEEAAPLLRRTARPGGGTPLLNGAGPGAARQSPRSALFRVGHMSSVELDDELLDPDMDP
PHPFPKEIPHNEKLLSLKYESLDYDNSENQLFLEEERRINHTAFRTVEIKRWVICALIGILTGLVACFIDIVVEN
LAGLKYRVIKGNIDKFTEKGGLSFSLLLWATLNAAFVLVGSVIVAFIEPVAAGSGIPQIKCFLNGVKIPHVVRLK
TLVIKVSGVILSVVGGLAVGKEGPMIHSGSVIAAGISQGRSTSLKRDFKIFEYFRRDTEKRDFVSAGAAAGVSAA
FGAPVGGVLFSLEEGASFWNQFLTWRIFFASMISTFTLNFVLSIYHGNMWDLSSPGLINFGRFDSEKMAYTIHEI
PVFIAMGVVGGVLGAVFNALNYWLTMFRIRYIHRPCLQVIEAVLVAAVTATVAFVLIYSSRDCQPLQGGSMSYPL
QLFCADGEYNSMAAAFFNTPEKSVVSLFHDPPGSYNPLTLGLFTLVYFFLACWTYGLTVSAGVFIPSLLIGAAWG
RLFGISLSYLTGAAIWADPGKYALMGAAAQLGGIVRMTLSLTVIMMEATSNVTYGFPIMLVLMTAKIVGDVFIEG
LYDMHIQLQSVPFLHWEAPVTSHSLTAREVMSTPVTCLRRREKVGVIVDVLSDTASNHNGFPVVEHADDTQPARL
QGLILRSQLIVLLKHKVFVERSNLGLVQRRLRLKDFRDAYPRFPPIQSIHVSQDERECTMDLSEFMNPSPYTVPQ
EASLPRVFKLFRALGLRHLVVVDNRNQVVGLVTRKDLARYRLGKRGLEELSLAQT

GAGCCAGCACCCTCAGAGGTTCGACTCGCCGTCCGGGAAGCCATTCATGCCCTCTCGTCTTCGGAGGATGGCGGC CACATCTTCTGCACCCTGGAGTCCCTGAAGCGGTATCTCGGTGAGATGGAGCCTCCAGCGCTCCCGAGGGAGAAG CTGCTGCCCCATGGCCGCCTGGAGGAGCTGTGGGCCAGCTTCTTCCTGGAGGGCCCGGCGGACCAAGCCTTCCTG GTGTTGATGGAGACCATCGAGGGTGCTGCGGGCCCCAGCTTCCGGCTGATGAAGATGGCGCGGCTGCTGGCCAGA TTCCTGCGCGAGGGCCGGCTGGCAGTGCTGATGGAGGCGCAGTGTCGGCAGCAGACGCGGCCCGGCTTCATCCTG CTCCGGGAGACGCTGCTGGGCAAGGTGGTGGCCCTGCCCGATCACCTGGGCAACCGCCTGCAGCAGGAGAACTTG GCCGAGTTCTTCCCCCAGAACTACTTCCGCCTGCTCGGCGAGGAGGTCGTCCGGGTGCTGCAGGCGGTTGTGGAC TCTCTCCAAGGTGGCCTGGATTCCTCCGTGTCCTTCGTGTCTCAGGTCCTTGGGAAAGCCTGTGTCCACGGGAGG CAGCAGGAGATCCTGGGCGTGCTGGTACCCCGGCTGGCACCCAGGGCAGCTACCTGCACCAGCGCGTC TGCTGGCGCCTGGTGGAGCAAGTGCCGGACCGGCCATGGAGGCTGTGCTGACCGGGCTGGTGGAGGCCGCACTG GGGCCTGAGGTCCTTTCGAGACTGCTGGGGAACCTGGTGGTGAAGAACAAGAAGGCCCAGTTTGTGATGACCCAG AAGCTTCTGTTCTTACAGTCCCGGCTCACGACGCCCATGCTGCAGAGCCTGCTGGGCCATCTGGCCATGGACAGC CAGCGCCCCCCTCCTGCTGCAGGTGCTGAAGGAGCTGTTGGAGACGTGGGGCAGCAGCAGTGCCATCCGCCAC ACTCCCTGCCGCAGCAGCGCCACGTCAGCAAGGCTGTCCTCATCTGCCTGGCGCAACTCGGGGAGCCGGAACTG GTGCGACGCCTGGGCATGATCGTGGCAGAGGTCGTTAGTGCCCGGATCCACCCCGAGGGGCCTCCCCTGAAATTC CAGTACGAAGAGGATGAACTGAGCCTCGAGCTGCCGTTGGCCTCCCCCAGCCTGCGGGTGACGGCGCCTCG GAGGCGGCACGTCCCTCGTTCCAGCCACGCAGAGCCCCCTGCAGAGACCCCCGCAGAGATCGTGGATGGCGGC GTCCCCCAAGCACAGCTGGCGGGCTCTGACTCGGACCTGGACAGCGATGATGAGTTTGTCCCCTACGACATGTCG GGGGACAGAGAGCTGAAGAGCAGCAAGGCTCCTGCCTACGTCCGGGACTGCGTGGAAGCCCTGACCACGTCTGAG GACATAGAGCGCTGGGAGGCCCTGCGGGCCCTTGAGGGCCTGGTCTACAGGAGCCCCACAGCCACTCGGGAG GTGAGCGTGGAGCTGCCAAGGTGCTTCTGCATCTGGAGGAGAAGACCTGTGTGGGGGATTTGCAGGGCTGCGC CAGAGAGCCCTGGTGGCCGTCACGGTCACAGACCCGGCCCCGGTGGCCGACTATCTGACCTCACAGTTCTATGCC CTCAACTACAGCCTCCGGCAGCGCATGGACATCCTGGATGTGCTGACTCTGGCTGCCCAGGAGCTGTCTAGGCCT CAGCCTGGCAGTGCCGTCTGACTGGCGGTGGTGGTGGAGGAGCGGATCAGAAGCCAAGACCCAGCGGCTC CCCCTCCTTCAGCGCTTTGACAGGCCTCTGGGTGACCTTCGACCTCTTGGGAAGACCAGCTGGTTCTCGGAAGG CTGGCGCACACCTTAGGGGCCCTGATGTGCCTGGCTGTTAACACCACGGTGGCTGTGGCCATGGGCAAGGCCCTG CTGGAATTCGTGTGGGCCCTTCGCTTCCACATCGATGCCTACGTGCGCCAGGGGCTGTTGTCGGCCGTCTCCTCC GTCCTGCTCAGCCTGCTGCGCGCCCTGCTGGAGGACCTGATGGACGAGCTGCTGGAAGCCCGGTCCTGGCTG GCGGACGTGGCTGAGAAAGACCCGGACGAGGACTGCAGGACGCTGGCACTGAGGGCCCTGCTGCTTCTGCAGAGA CTCAAGAACAGGCTCCTCCCACCCGCGTCTCCCTAGTCCCTGGAGGCCTCCCCAGGACCACCCTCGCCGACAGCA AGGCAGGCGGCTGAGCAGCGGCCTGGAGCAGCAGAGCCAGGCTTTGTAGCGAGGCCAGGTCTTCGGCCGCATCCG GTACGGAGAGTGCAGATGCAGGAAGGCCCGGCCTGCCGCTATTTATAGTGCAGCCAGTCCGCTAAAAATACACTG GGCCTGGGCACTGCCCGCCGGACATGGCAGCCTGGACGTGGGGCTGGGGGCTGTGGGCGCTGCGGGGTTGA TCCTCTGAGAGCCACCAAGCAGGACAGAGCAGCTCTTGTCCCAGGTCCCTCGGGCTGAGCGCCGTGTCACCAGGA GAATAGTGCTCACAGCCCAGGCAGGTGTGTGGCTCCTGGATGGGCTCGTGGGGCGGGATGGGACAGGGCACGGG ΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑ

MEPAPSEVRLAVREAIHALSSSEDGGHIFCTLESLKRYLGEMEPPALPREKEEFASAHFSPVLRCLASRLSPAWL ELLPHGRLEELWASFFLEGPADQAFLVLMETIEGAAGPSFRLMKMARLLARFLREGRLAVLMEAQCRQQTRPGFI LLRETLLGKVVALPDHLGNRLQQENLAEFFPQNYFRLLGEEVVRVLQAVVDSLQGGLDSSVSFVSQVLGKACVHG RQQEILGVLVPRLAALTQGSYLHQRVCWRLVEQVPDRAMEAVLTGLVEAALGPEVLSRLLGNLVVKNKKAQFVMT QKLLFLQSRLTTPMLQSLLGHLAMDSQRRPLLLQVLKELLETWGSSSAIRHTPLPQQRHVSKAVLICLAQLGEPE LRDSRDELLASMMAGVKCRLDSSLPPVRRLGMIVAEVVSARIHPEGPPLKFQYEEDELSLELLALASPQPAGDGA SEAGTSLVPATAEPPAETPAEIVDGGVPQAQLAGSDSDLDSDDEFVPYDMSGDRELKSSKAPAYVRDCVEALTTS EDIERWEAALRALEGLVYRSPTATREVSVELAKVLLHLEEKTCVVGFAGLRQRALVAVTVTDPAPVADYLTSQFY ALNYSLRQRMDILDVLTLAAQELSRPGCLGRTPQPGSPSPNTPCLPEAAVSQPGSAVASDWRVVVEERIRSKTQR LSKGGPRQGPAGSPSRFNSVAGHFFFPLLQRFDRPLVTFDLLGEDQLVLGRLAHTLGALMCLAVNTTVAVAMGKA LLEFVWALRFHIDAYVRQGLLSAVSSVLLSLPAARLLEDLMDELLEARSWLADVAEKDPDEDCRTLALRALLLLQ RLKNRLLPPASP

 $\label{thm:ligatic} {\tt MICLVLTIFANLFPAACTGAHERTFLAVKPDGVQRRLVGEIVRRFERKGFKLVALKLVQASEELLREHYAELRER\\ {\tt PFYGRLVKYMASGPVVAMVWQGLDVVRTSRALIGATNPADAPPGTIRGDFCIEVGKNLIHGSDSVESARREIALW\\ {\tt FRADELLCWEDSAGHWLYE}\\ \\$

FIGURE 4378

 $\label{thm:construction} {\tt MARKKVRPRLIAELARRVRALREQLNRPRDSQLYAVDYETLTRPFSGRRLPVRAWADVRRESRLLQLLGRLPLFG$$$ LGRLVTRKSWLWQHDEPCYWRLTRVRPDYTAQNLDHGKAWGILTFKGKTESEAREIEHVMYHDWRLVPKHEEEAF$$$ TAFTPAPEDSLASVPYPPLLRAMIIAERQKNGDTSTEEPMLNVQRIRMEPWDYPAKQEDKGRAKGTPV$$$

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4750/6881 FIGURE 4380

GCCGAGCCTGGAAACCTGGCCGGCGTCAGGCACATCATCCTGGTCCTCTCAGGAAAGGGGGGGCGTTGGGAAAAGC ACCATCTCCACGGAGCTGGCCCTGGCACTGCGCCATGCAGGCAAGAAGGTGGGAATCCTGGATGTGGACCTGTGT TTCCTGGACCGGGAGCAGAGCATCTCGCTCATGTCTGTGGGCTTCCTGCTGGAGAAGCCGGACGAGGCCGTGGTG TGGAGAGGCCCCAAGAAAAACGCGCTGATAAAGCAGTTTGTCTCCGACGTGGCCTGGGGGGGAGCTGGACTACCTG GTGGTGGACACGCCCCGGGGACCTCCGATGAGCACATGGCCACCATAGAAGCCCTGCGTCCCTACCAGCCCCTG GGGGCCCTCGTGGTCACCACGCCCCAGGCGGTGTCCGTGGGGGACGTGAGCGGAGCTGACCTTCTGTAGGAAG GTCTTCTCCAGGGGCGGGGGGGGGGGGCCCAGCTCGCCGGGGGTGCCCTTCTTAGGCTCCGTGCCCCTGGAC $\tt CTCACCTCCATAGCCCAGAAGATTCTGGACGCGACGCCCGCGTGCCTCCCC\underline{TGA}CTAAGGCCACCTTGCAGCCGC$ TTTCCAGGGCCACCAAGGGCTCTGCTCCAGAGAAACAGAGGCCTGGGCTCGGTTCCCGGGCCCTGCA GGGGCAGGCCCAGGCAGCGTCAGCGGAGAGCTTCTCCCCGACCAGCCCAGCCCAGGATGTGTCGCACCAGCAG CTCTGCCTGGTTGGCCTGCAGTGCCGTGGTCTGCGTGCTCTGCAGCTGTGAGACGGGGGCGGCCTGGGCTCTCTT ${\tt CCCATCCATGTTGCCTACCTGTGCCCCTGGCAGCCGCGTGTCCACACAGTTAGCGGAGCGCAGGACTTCTGCAGT}$ CCTCAGGTGACCCCGGGCCTCCAGCACCCTGGGTCGCTGTCATCTGTGTTTAGCTCGGGGAGTGCCCCCTAAGGG GGCGAACTGACCTCAGGCATGTCTTGTAACTGTAGAGGCGCCTGCCATTAAACGTGTCCGCTGCTGTGGCGACAG

MEAAAEPGNLAGVRHIILVLSGKGGVGKSTISTELALALRHAGKKVGILDVDLCGPSIPRMLGAQGRAVHQCDRG WAPVFLDREQSISLMSVGFLLEKPDEAVVWRGPKKNALIKQFVSDVAWGELDYLVVDTPPGTSDEHMATIEALRP YQPLGALVVTTPQAVSVGDVRRELTFCRKTGLRVMGIVENMSGFTCPHCTECTSVFSRGGGEELAQLAGVPFLGS VPLDPALMRTLEEGHDFIQEFPGSPAFAALTSIAQKILDATPACLP

WO 2004/030615 PCT/US2003/028547

4752/6881 FIGURE 4382

WO 2004/030615 PCT/US2003/028547

4753/6881 FIGURE 4383

MADDAGAAGGPGGPGMGNRGGFRGGFGSGIRGRGRGRGRGRGRGRGRGRGRAEDKEWMPVTKLGRLVKDMKI KSLEEIYLFSLPIKESEIIDFFLGASLKDEVLKIMPVQKQTRAGQRTRFKAFVAIGDYNGHVGLGVKCSKEVATA IRGAIILAKLSIVPVRRGYWGNKIGKPHTVPCKVTGRCGSVLVRLIPAPRGTGIVSARVPKKLLMMAGIDDCYTS ARGCTATLGNFAKATFDAISKTYSYLTPDLWKETVFTKSPYQEFTDHLVKTHTRVSVQRTQAPAVATT

 ${\tt TTCAGCTGGAGCGGCGGCGGCAAC} \underline{{\tt ATG}} {\tt GCAGAGACCGCGGCCGGAGTGGGCCGCTTCAAGACCAACTATGCT}$ GTGGAGCGCAAAATTGAGCCTTTCTACAAGGGCGGAAAAGCACAGCTGGACCAGACTGGCCAGCACCTCTTCTGC GTCTGTGGCACCAGAGTCAACATTCTGGAAGTGGCCTCGGGGGCCGTGCTGCGGAGTCTGGAGCAGGAGGACCAG GAGGACATCACTGCCTTTGACCTCAGCCCTGACAACGAGGTGCTGGTGACAGCCAGTCGGGCATTGCTGCTGGCT CAGTGGGCCTGGCAAGAGGGCAGCGTTACCCGCCTGTGGAAGGCGATACACACGGCCCCCGTGGCCACCATGGCC TTCGACCCCACCTCCACTCTGCTAGCCACAGGTGGCTGTGATGGGGCCGTGCGCGTCTGGGACATCGTGCGGCAC TACGGGACACCACTTCCGAGGCTCGCCCGGTGTCGTGCACCTAGTGGCCTTCCACCCGGACCCTACACGCCTG *AAGATATGTATCATCTGGGACCTTCAGAGCTGCCAGGCCACGAGGACCGTGCCTGTGTTTGAGAGCGTGGAGGCT GCTGTGCTGTTGCCAGAGGAGCCAGTGTCCCAGCTGGGTGTGAAGTCCCCAGGGCTGTACTTTCTGACAGCTGGC GGGCAGGAGCTGACCCACTGCACCCTGGCACACCCCCGCCGGCGTGGTCCTCACCGCCACCGCCGACCACAACCTG TTGCTCTACGAGGCTCGCTCCCTGCGGCTGCAGAAACAGTTCGCTGGCTACAGTGAGGAGGTTTTGGATGTCCGG TTTCTTGGGCCCGAGGACTCCCACGTTGTCGTGGCCTCCAATAGCCCCTGCCTAAAAGTGTTTGAGCTGCAGACG TCAGCCTGCCAGATCCTCCACGGCCACACGGATATCGTCCTGGCCCTGGATGTGTTCCGGAAGGGGTGGCTCTTT GCCAGCTGTGCCAAGGATCAGAGCGTCCGTATCTGGAGAATGAACAAGGCTGGCCAGGTGATGTGCGTGGCTCAG CAGGACTGCACTGTGAAGCTGTGGCCTCTTCCCAAAGCCTTGCTGTCCAAGAACACAGCCCCAGACAACGCCCT AAGCTGCTGGCCACAGGCTCACAGGACCGCACGGCCAAGCTCTGGGCCCTGCCACAGTGCCAGCTGCTGGGTGTC TTCTCAGGCCACCGGCGTGGCCTCTGGTGCGTCCAGTTCTCTCCCATGGACCAGGTGCTGGCCACGGCCTCAGCT GATGGCACCATCAAGCTCTGGGCACTCCAGGACTTCAGCTGTCTCAAGACATTTGAGGGGCACGATGCTTCTGTG ATCAAGAACAACGAGTGTGCGGACGCTGGATGCCCACGAGGACAAGGTCTGGGGGGCTGCACTGCAGCCGGCTG GACGACCACGCCCTCACTGGGGCCAGTGACTCCCGAGTCATCCTCTGGAAGGATGTGACCGAGGCGGAGCAGGCA GAGGAGCAGGCAGGCAAGAGGAGCAGGTGGTCAGGCAGCAAGAGCTGGACAACCTGCTGCATGAGAAGCGGTAC CTGCGGGCCTGGCCTGCCATCTCCCTGGATCGGCCCCACACCGTGCTGACTGTCATCCAGGCCATCCGGAGG GACCCTGAGGCCTGCGAGAAGCTGGAAGCCACCATGCTCCGACTGCGGCGCGACCAGAAAGAGGCCCTGCTGCGC TTCTGCGTCACGTGGAACACCAACTCGCGGCACTGCCACGAGGCCCAGGCCGTGCTGGGTGTGCTCTTGAGGCGA GAGGCCCCCGAGGAGCTGCTGGCCTACGAAGGCGTGCGGGCAGCGCTTGAGGCCCTGCTGCCCTACACTGAGCGG CACTTTCAGCGGCTCAGCAGGACCCTCCAGGCCGCCTTTCTTGGACTTCCTGTGGCACAACATGAAGCTCCCT $\tt GTGCCGGCCGCCCCCACCCCTGGGAAACCCATAAAGGCGCACTGCCC\underline{TAG} \tt CCGGTCCGGCCTCTCTCCAGT$

MAETAAGVGRFKTNYAVERKIEPFYKGGKAQLDQTGQHLFCVCGTRVNILEVASGAVLRSLEQEDQEDITAFDLS
PDNEVLVTASRALLLAQWAWQEGSVTRLWKAIHTAPVATMAFDPTSTLLATGGCDGAVRVWDIVRHYGTHHFRGS
PGVVHLVAFHPDPTRLLLFSSATDAAIRVWSLQDRSCLAVLTAHYSAVTSLAFSADGHTMLSSGRDKICIIWDLQ
SCQATRTVPVFESVEAAVLLPEEPVSQLGVKSPGLYFLTAGDQGTLRVWEAASGQCVYTQAQPPGPGGELTHCTL
AHTAGVVLTATADHNLLLYEARSLRLQKQFAGYSEEVLDVRFLGPEDSHVVVASNSPCLKVFELQTSACQILHGH
TDIVLALDVFRKGWLFASCAKDQSVRIWRMNKAGQVMCVAQGSGHTHSVGTVCCSRLKESFLVTGSQDCTVKLWP
LPKALLSKNTAPDNGPILLQAQTTQRCHDKDINSVAIAPNDKLLATGSQDRTAKLWALPQCQLLGVFSGHRRGLW
CVQFSPMDQVLATASADGTIKLWALQDFSCLKTFEGHDASVLKVAFVSRGTQLLSSGSDGLVKLWTIKNNECVRT
LDAHEDKVWGLHCSRLDDHALTGASDSRVILWKDVTEAEQAEEQARQEEQVVRQQELDNLLHEKRYLRALGLAIS
LDRPHTVLTVIQAIRRDPEACEKLEATMLRLRRDQKEALLRFCVTWNTNSRHCHEAQAVLGVLLRREAPEELLAY
EGVRAALEALLPYTERHFQRLSRTLQAAAFLDFLWHNMKLPVPAAAPTPWETHKGALP

GGCACGAGGCAAGAGGGGCCAGCACCCCCGCTGCCTCACGCTGCCCACCGCCAACGGGCCCGACCGGC GGCGGTGTCGACTTCTACGACGTCGCCTTCAAGGTCATCCTGGTGGGGGACTCGGGTGTGGGGAAGACCTGTCTG CTGGTGCGATTCAAGGATGGTGCTTTCCTGGCGGGGACCTTCATCTCCACCGTAGGCATTGACTTCCGGAACAA GTTCTGGACGTGGATGTGAAGGTGAAGCTGCAGATGTGGGACACAGCTGGTCAGGAGCGGTTCCGCAGTGTT ACCCATGCCTACTACCGGGATGCTCATGCTCTGCTGCTGCTCTACGATGTCACCAACAAGGCCTCCTTTGACAAC ATCCAGGCCTGGCTGACCGAGATCCACGAGTACGCCCAGCACGTGGCGCTCATGCTGCTGGGGAACAAGGTG GAGACCAGCGCCAAGACGGGCCTCAACGTGGACTTGGCCTTCACAGCCATAGCAAAGGAGTTGAAGCAGCGCTCC ATGAAGGCTCCCAGCGAGCCGCGCTTCCGGCTGCATGATTACGTTAAGAGGGGAGGGTCGAGGGGCCTCCTGCTGC AGGCCCTTCTGACTTTGTTGCCCAGTGGCCAACGCCCGAGTGTCTGTTTTCAGGAGCCCCAGGTCAAGCCTTGTC CCTTCCTCCCAGCAACAGTCCCAACAAGCAGGCTTCTGAGAGCCCGTGGCCGCACTGGCCGCCACGGAAA AGCAGTCTTCTGCACGGGACGGGGAGCGGCAAGTGGACAGACTTTGCCACGGTGCTCTGCTCCCCCCTCCTGGGC ACGTCCAGGTGAGGGAGGGCTGGGGCTGGCACCACGCACAGTGCCTAACCCTAGAAAAGCCATGTCTTCAGCCGC ACATGCTCAGGCAGCTAAGGGAGGACGCCTGCCCACGCCTGGGACAGAAGGCTTCACTGCTAATCACATCGTGCA TCTGTGTGTCCTGGGAGCTGCCTGCTCCCGGCCCACCCTCTAGGAGGCTCTGGCTCAAACAGCAATAGGGTCTTC CTCACTGACCTTGGAGGATGCCTGTGGCCTTGTGATAAAATGTGGGAAATCACAGAAAAACACCAGAAACAACAAC ${\tt TGCCAGCCGGCCTGGCCACAGGTGAGGTCTGTGATTTCCGAGCACGCTCCACCTTGCACTCAACTTGGCCTTTT}$ ΑΑΑΑΑΑΑΑΑΑ

 ${\tt MLVGDSGVGKTCLLVRFKDGAFLAGTFISTVGIDFRNKVLDVDGVKVKLQMWDTAGQERFRSVTHAYYRDAHALL} \\ {\tt LLYDVTNKASFDNIQAWLTEIHEYAQHDVALMLLGNKVDSAHERVVKREDGEKLAKEYGLPFMETSAKTGLNVDL} \\ {\tt AFTAIAKELKQRSMKAPSEPRFRLHDYVKREGRGASCCRP}$

GGGCGGAGGTGCTTCCCAAGGACCGTAGATGCCTCTCTAGAGCATGAGCTCAGGCAAGAGTGCCCGCTACAACC GCTTCTCCGGGGGGCCCAGCAATCTTCCCACCCCAGACGTCACCACAGGGACCAGAATGGAAACGACCTTCGGAC GCCCCCATCAGCACTCCCGCCGCTCCGACTCCGCCATCTCTGTCCGCTCCCTGCACTCAGAGTCCAGCATGTC TCTGCGCTCCACATTCTCACTGCCCGAGGAGGAGGAGCCGGAGCCACTGGTGTTTGCGGAGCAGCCCTCGGT GAAGCTGTGCTGCAGCTCTGCAGCGTCTTCAAAGACCCCGTGATCACCACGTGTGGGCACACGTTCTGTAG GAGATGCGCCTTGAAGTCAGAGAAGTGTCCCGTGGACAACGTCAAACTGACCGTGGTGGTGAACAACATCGCGGT GGCCGAGCAGATCGGGGAGCTCTTCATCCACTGCCGGCACGGCTGCCGGGTAGCGGGCAGCGGGAAGCCCCCCAT CTTTGAGGTGGACCCCGAGGGTGCCCCTTCACCATCAAGCTCAGCGCCCGGAAGGACCACGAGGGCAGCTGTGA CTACAGGCCTGTGCGGTGTCCCAACAACCCCAGCTGCCCCCGCTGCTCAGGATGAACCTGGAGGCCCACCTCAA GGAGTGCGAGCACATCAAATGCCCCCACTCCAAGTACGGGTGCACGTTCATCGGGAACCAGGACACTTACGAGAC CCACCTGGAGACTTGCCGCTTCGAGGGCCTGAAGGAGTTTCTGCAGCAGACGGATGACCGCTTCCACGAGATGCA CGTGGCTCTGGCCCAGAAGGACCAGGAGATCGCCTTCCTGCGCTCCATGCTGGGAAAGCTCTCGGAGAAGATCGA CCAGCTAGAGAAGAGCCTGGAGCTCAAGTTTGACGTCCTGGACGAAAACCAGAGCAAGCTCAGCGAGGACCTCAT GGAGTTCCGGCGGGACGCATCCATGTTAAATGACGAGCTGTCCCACATCAACGCGCGGCTGAACATGGGCATCCT AGGCTCCTACGACCCTCAGCAGATCTTCAAGTGCAAAGGGACCTTTGTGGGCCACCAGGGCCCTGTGTGGTGTCT CTGCGTCTACTCCATGGGTGACCTGCTCTTCAGTGGCTCCTCTGACAAGACCATCAAGGTGTGGGGACACATGTAC CACCTACAAGTGTCAGAAGACACTGGAGGGCCATGATGGCATCGTGCTGGCTCTCTGCATCCAGGGGTGCAAACT CTACAGCGGCTCTGCAGACTGCACCATCATTGTGTGGGACATCCAGAACCTGCAGAAGGTGAACACCATCCGGGC CCATGACAACCCGGTGTGCACGCTGGTCTCCTCACACAACGTGCTCTTCAGCGGCTCCCTGAAGGCCATCAAGGT CTGGGACATCGTGGGCACTGAGCTGAAGTTGAAGAAGGAGCTCACAGGCCTCAACCACTGGGTGCGGGCCCTGGT GGCTGCCCAGAGCTACCTGTACAGCGGCTCCTACCAGACAATCAAGATCTGGGACATCCGAACCCTTGACTGCAT CCACGTCCTGCAGACGTCTGGTGGCAGCGTCTACTCCATTGCTGTGACAAATCACCACATTGTCTGTGGCACCTA CGAGAACCTCATCCACGTGTGGGACATTGAGTCCAAGGAGCAGGTGCGGACCCTCACGGGCCACGTGGGCACCGT GTATGCCCTGGCGGTCATCTCGACGCCAGACCAGACCAAAGTCTTCAGTGCATCCTACGACCGGTCCCTCAGGGT CCGGGGCCGACTCTTCTCAGGGGCTGTGGATAGCACTGTGAAGGTTTGGACTTGC**TAA**CAGGATCCAGGCCAGGC TGTGGTTTCCCCTGAACCAGCCTGGACCTTTCTGAGCCAGGCTGGCCACATGGGGTGGTCTCGGGGTTTCTGCC TGCCCGTGGGCATAGGTGGACAGGCTCTGGCAGCCGGGCAGTGCCCTCCCCGTCCCATGCTCGGCGAGCCTCCC TCTACTCGGCACTGTCCTTGCTGCCCAGCCCCTCTCTGGGTGCCAGGTACGACGCTTGCCCCGGCCCACCCTCCA TCCCCACCCTCCATCCCCACCCTAGATGGAGCGAGGGCCTTTTTACTCACCTTTTCTACCGTTTTTAGACTGTAT GTAGATTTGGTTACCTCCTGGTTGAAATAAATGCTCCACAGACTGTGGCTGTGAGTGGGGACAGCTCCTCGGGAC AAGGGGGCTGTGTGGCCTTGAGGTTGGTGTGCACAGGCACTGGCTGTGAGGTGGGGGGGCATGGGGCAGTT AGCTGCTGGCCTCCAGTCCCCATCTCCCCCAACACATGTGCCCCCAAAAAGTGAGCCAGGCACCTCTGTTTCCTGC TGTTTATTGACAGCCGACGCCCTTGCCCAGACCTCCCCTGCCCACCTGCTGGAGCCCAGCCTGTGCCGCC CTCTGAGGAGAGGCCTGGGGGACAGCTGGGCACGTCCACTCGCAGGGAAACACGGGGTGAGACAGCAGGAAGGG GCCCTGCACGCCGGGACGCCACCTCCGCCAGCCGCCTCCACCCGCCCCACACCAATCGCTGGTTTTCGGCATT TTTTAAATTTTTTTTTAAGAAACGTCAAAGTTGTGCCCAACACTGTGGATCAGCAAACACGATAGAGGAGACCCA CACACCCACATTCACCAAACCCACCGGGCCCTGGGACGCAGCCAGGAGGAGGACACGGCCGCCGAGAGC AAGGCACAACCTCGAGTTCTTGGGGCGCAGAGAACTTAGGAGAGCACCGGAGGAGCCCCCGGCAGAGCACCCG ACAGCCTGGGCCTCTAACAGCTTTTGTCCGGAGCTAGACTTCGTGTCCTTTCAGTTGGTAAATGGTTTTCTATAG AATCAATAATATTTCTTTAAATATATATTTGTTAAAGTTATACCTTTTTGTTTCTCTGGGGAAATCCGCCT

MPPISTPRRSDSAISVRSLHSESSMSLRSTFSLPEEEEEPEPLVFAEQPSVKLCCQLCCSVFKDPVITTCGHTFC RRCALKSEKCPVDNVKLTVVVNNIAVAEQIGELFIHCRHGCRVAGSGKPPIFEVDPRGCPFTIKLSARKDHEGSC DYRPVRCPNNPSCPPLLRMNLEAHLKECEHIKCPHSKYGCTFIGNQDTYETHLETCRFEGLKEFLQQTDDRFHEM HVALAQKDQEIAFLRSMLGKLSEKIDQLEKSLELKFDVLDENQSKLSEDLMEFRRDASMLNDELSHINARLNMGI LGSYDPQQIFKCKGTFVGHQGPVWCLCVYSMGDLLFSGSSDKTIKVWDTCTTYKCQKTLEGHDGIVLALCIQGCK LYSGSADCTIIVWDIQNLQKVNTIRAHDNPVCTLVSSHNVLFSGSLKAIKVWDIVGTELKLKKELTGLNHWVRAL VAAQSYLYSGSYQTIKIWDIRTLDCIHVLQTSGGSVYSIAVTNHHIVCGTYENLIHVWDIESKEQVRTLTGHVGT VYALAVISTPDQTKVFSASYDRSLRVWSMDNMICTQTLLRHQGSVTALAVSRGRLFSGAVDSTVKVWTC

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4760/6881 FIGURE 4390

FIGURE 4391

MALVASVRVPARVLLRAGARLPGAALGRTERAAGGGDGARRFGSQRVLVEPDAGAGVAVMKFKNPPVNSLSLEFL
TELVISLEKLENDKSFRGVILTSDRPGVFSAGLDLTEMCGRSPAHYAGYWKAVQELWLRLYQSNLVLVSAINGAC
PAGGCLVALTCDYRILADNPRYCIGLNETQLGIIAPFWLKDTLENTIGHRAAERALQLGLLFPPAEALQVGIVDQ
VVPEEQVQSTALSAIAQWMAIPDHARQLTKAMMRKATASRLVTQRDADVQNFVSFISKDSIQKSLQMYLERLKEE
KG

GGCCCGCGGGACTCAGACCAGCGGGGAGCGCGGCCTCCGCCCTTGGGGCCCTCCCGCCGGGGCCGGAGACCCAAGC CCCCAACGCCAGGCCCTGCCCTGGAAGCGCTCGCGGCCCCGGCGCCTGGACGGGGAGTTGCTGCTCTTTGGCGTA AATTGCAATCGATTAGGGATCGTTTCTCAGAATCAAGTTAGAAGTGAGAGTTCAGATAAGTGAGGCCGCCATTGC ATAATAAAAGTCCAGCACTAGGGCTCCTTCACCTACCAAACGCAAAGACCGCTCAGATGAGAAGTCCAAGGATC GCTCAAAAGATAAAGGGGCCCACCAAGGAGTCGAGTGAGAAGGATCGCGGCCGGGACAAAACCCGAAAGAGGCGCA GCGCTTCCAGTGGTAGCAGCAGTACCAGGTCTCGGTCCAGCTCCAGCTCCAGCTCCAGCACCAGCACTG GCTCAAGCAGTGGCTCCAGCTCTTCCTCAGCATCCAGCCGCTCAGGAAGCTCCAGCACCTCCCGCAGCTCCAGCT CTAGCAGCTCTTCTGGCTCTCCAAGTCCTTCTCGGCGCAGACACGACAACAGGAGGCGCTCCCGCTCCAAATCCA AACCACCTAAAAGAGATGAAAAGGAGAGGAAAAGGCGGAGCCCATCTCCTAAGCCCCACCAAAGTGCACATTGGGA GACTCACCCGGAATGTGACAAAGGATCACATCATGGAGATATTTTCCACCTATGGGAAAATTAAAATGATTGACA AGAAGGCGCTGAAGCACATGGATGGAGGACAAATTGATGGCCAGGAGATCACTGCCACCGCCGTGCTGGCCCCCT GGCCTAGGCCACCCCCAGGAGATTCAGCCCTCCCAGGAGAATGTTGCCACCACCGCCTATGTGGCGCAGGTCTC CCCCACGGATGAGGAGAAGGTCCCGCTCCCCGAGGCGCAGGTCCCCCGTGCGCCGGAGATCACGGTCCCCGGGCC GCCGCCGCCACAGGAGCCGCTCCAGCTCCAACTCCTCCCGA<u>TAA</u>ACAGGCCACTGAAGCTCTCGCCCCTGTAACT TATACCCCACCCAGCTCAGTTTTGTCACTTTTCTAGCCAAAGGAAGACCAGTAGGAAAGCAAACCCTTGACTCTG GCAGGATTTGCAGGCAGCAGCAGCACCCCTCTGCCAGCCGGGCCCCGGCTGCAGAAGTGCTGTTTGGATG CTGTGTGCCTGTCAAGATTCCCTCCGGTTTTCTGGCTAGAAAGCTCATCCGTTTCCGGTTTCTAAGAGTCAGTTC AGTGGCAGAGCCACCAGGGAAAAGTGAGGCTCTTGGGGGTGGTTTGACCCTGCTTACCTGGGAGCACACTTTTCC CTTCCCCGATGACCTGGGATGGTGGCCAGGCCGTGCCCTTGCTGTTGCTGGGCAGTGTCCTTTTGGAAAGGGAGC TGCCCCAGGCTTTAGTGCAGCTGCCAACCCTGTTAGGCCTGGCCTCTCGAGGCCTCTTCTGACCTCAAGGGTCAC ACCCCCTCAAAGATCCTCTCACCCATGGTAGTTGCTGCTCGTGGTTCTGTCCGTGCACCGATGCACACACC GCACCCCACCACTGTACTCTGAAATTGGCGAGTGAGTGGAGAGCCAGCTCTGCGGAGTCATCACGCAGCCATGGT CTTTCATTGTACAGTCAGTACTATAAAATTTCTCTTTTTGAGTTTTATACCTTTGTAGCATTTTAGATGACATTGT ΑΑΑΑΑΑΑΑΑΑΑΑ

GAGCGGCGCCTCGGCGGCTGAGGAAGCAGGAGGAGGTGGCGGCGGCGGGAAGATGCTGCTCTTTGGCGTA ${\tt AATTGCAATCGATTAGGGATCGTTTCTCAGAATCAAGTTAGAAGTGAGAGTTCAGATAAGTGAGGCCGCCATTGC}$ TGCTTTGAACACCTCAGAAGGGGAGA**ATG**GATTTATCAGGAGTGAAAAAGAAGAGCTTGCTAGGAGTCAAAGAAA ATAATAAAAAGTCCAGCACTAGGGCTCCTTCACCTACCAAACGCAAAGACCGCTCAGATGAGAAGTCCAAGGATC GCTCAAAAGATAAAGGGCCCACCAAGGAGTCGAGTGAGAAGGATCGCGGCCGGGACAAAACCCGAAAGAGGCGCA GCGCTTCCAGTGGTAGCAGCACTACCAGGTCTCGGTCCAGCTCGACTTCCAGCTCAGCACCAGCACTG GCTCAAGCAGTGGCTCCAGCTCTTCCTCAGCATCCAGCCGCTCAGGAAGCTCCAGCACCTCCCGCAGCTCCAGCT CTAGCAGCTCTTCTGGCTCTCCAAGTCCTTCTCGGCGCAGACACAGCACAGGGCGCTCCCGCTCCAAATCCA AACCACCTAAAAGAGATGAAAAGGAGAGAAAAGGCGGAGCCCATCTCCTAAGCCCACCAAAGTGCACATTGGGA GACTCACCCGGAATGTGACAAAGGATCACATCATGGAGATATTTTCCACCTATGGGAAAATTAAAATGATTGACA AGAAGGCGCTGAAGCACATGGATGGAGGACAAATTGATGGCCAGGAGATCACTGCCACCGCCGTGCTGGCCCCCT GGCCTAGGCCACCCCCAGGAGATTCAGCCCTCCCAGGAGAATGTTGCCACCACCGCCTATGTGGCGCAGGTCTC CCCCACGGATGAGGAGAAGGTCCCGGTCCCCGAGGCGCAGGTCCCCGTGCGCCGGAGATCACGGTCCCCGGGCC GCCGCCGCCACAGGAGCCGCTCCAGCTCCAACTCCTCCCGATAAACAGGCCACTGAAGCTCTCGCCCCTGTAACT TATACCCCACCCAGCTCAGTTTTGTCACTTTTCTAGCCAAAGGAAGCCAGTAGGAAAGCAAACCCTTGACTCTG GCAGGATTTGCAGGCAGCAGCACCCCTCTGCCAGCCCCGGCCCCGGCTGCAGAAGTGCTGTTGGTTTGGATG CTGTGTGCCTGTCAAGATTCCCTCCGGTTTTCTGGCTAGAAAGCTCATCCGTTTCCGGTTTCTAAGAGTCAGTTC AGTGGCAGAGCCACCAGGGAAAAGTGAGGCTCTTGGGGGGTGGTTTGACCCTGCTTACCTGGGAGCACACTTTTCC CTTCCCCGATGACCTGGGATGGTGGCCAGGCCGTGCCCTTGCTGTTGCTGGGCAGTGTCCTTTTGGAAAGGGAGC TGCCCCAGGCTTTAGTGCAGCTGCCAACCCTGTTAGGCCTGGCCTCTCGAGGCCTCTTCTGACCTCAAGGGTCAC ACCCCCTCAAAGATCCTCTCACCCATGGTAGTTGCTGCTCGTGGTTCTGTCCGTGCACCGATGCACACACC GCACCCACCACTGTACTCTGAAATTGGCGAGTGAGTGGAGAGCCAGCTCTGCGGAGTCATCACGCAGCCATGGT CTTTCATTGTACAGTCAGTACTATAAAATTTCTCTTTTGAGTTTTATACCTTTGTAGCATTTTAGATGACATTGT ΑΑΑΑΑΑΑΑΑΑΑ

MDLSGVKKKSLLGVKENNKKSSTRAPSPTKRKDRSDEKSKDRSKDKGATKESSEKDRGRDKTRKRRSASSGSSST RSRSSSTSSSGSSTSTGSSSGSSSSSASSRSGSSSTSRSSSSSSSSGSPSPSRRRHDNRRRSRSKSKPPKRDEKE RKRRSPSPKPTKVHIGRLTRNVTKDHIMEIFSTYGKIKMIDMPVERMHPHLSKGYAYVEFENPDEAEKALKHMDG GQIDGQEITATAVLAPWPRPPPRRFSPPRRMLPPPPMWRRSPPRMRRSRSPRRRSPVRRRSRSPGRRRHRSRSS SNSSR

CGCGCCGAAGGCGGTAGGGCGCCACGGAGAGGAACCGCTCTAGGCACGTAAGGCCTCGTGAGGTTGCGTCGCGCG ${\tt TCCAGGCCTTGCAGCGGCTCCAT} \underline{{\tt ATG}} {\tt ACCATCTTCTCCCAGAGCGTCTCACCATGTGGGAAGTTTCTGGCGGCTG}$ GCAACAATTACGGGCAGATTGCCATCTTCAGCTTGTCCTCTGCTTTGAGCTCAGAAGCCAAAGAGGAAAGTAAGA AGCCGGTGGTGACTTTCCAAGCCCATGATGGGCCCGTCTATAGCATGGTTTCCACCGATCGACATCTGCTTAGTG CTGGGGATGGGGAGGTGAAGGCCTGGCTTTGGGCGGAGATGCTCAAGAAGGGCTGTAAGGAGCTGTGGCGTCGTC AGCCTCCATACAGGACCAGCCTGGAAGTGCCTGAGATCAACGCTTTGCTGCTGGTCCCCAAGGAGAATTCCCTCA TCCTGGCTGGGGGAGACTGTCAGTTGCACACTATGGACCTTGAAACTGGGACTTTCACGAGGGTCCTCCGGGGCC ACACAGACTACATCCACTGCCTGGCACTGCGGGAAAGGAGCCCAGAGGTGCTGTCAGGTGGCGAGGATGGAGCTG $\tt CCCTCTGGCACCTCCGATCCTCCACCACCACCATCTTCCCCATCCGGGCGCCACAGAAGCACGTCACCTTCT$ $\tt TGACAGCTGCAGCCAACAGCTGCCGGGTGGATGTCTTCACCAACCTGGGTTACCGAGCCTTCTCCCTGTCCTTC\underline{\textbf{T}}$

MTIFSQSVSPCGKFLAAGNNYGQIAIFSLSSALSSEAKEESKKPVVTFQAHDGPVYSMVSTDRHLLSAGDGEVKA WLWAEMLKKGCKELWRRQPPYRTSLEVPEINALLLVPKENSLILAGGDCQLHTMDLETGTFTRVLRGHTDYIHCL ALRERSPEVLSGGEDGAVRLWDLRTAKEVQTIEVYKHEECSRPHNGRWIGCLATDSDWMVCGGGPALTLWHLRSS TPTTIFPIRAPQKHVTFYQDLILSAGQGRCVNQWQLSGELKAQVPGSSPGLLSLSLNQQPAAPECKVLTAAGNSC RVDVFTNLGYRAFSLSF

MARGSLRRLLRLLVLGLWLALLRSVAGEQAPGTAPCSRGSSWSADLDKCMDCASCRARPHSDFCLGCAAAPPAPF RLLWPILGGALSLTFVLGLLSGFLVWRRCRRREKFTTPIEETGGEGCPAVALIQ

 ${\tt GGCACGAGGATCTCCTTCGCAGTGCAGCTCCTTCAACCTCGCC} \underline{{\tt ATC}} {\tt GCCTCTGCCGGAATGCAGATCCTGGGAGT}$ $\tt CGTCCTGACACTGCTGGGCTGGATGGCCTGGTCTCCTGTGCCCTGTCCCATGTGGAAGGTGACCGCTTTCAT$ GATGCAGTGCAAGGTGTACGACTCACTGCTGGCGCTGCCACAGGACCTGCAGGCTGCACGTGCCCTCTGTGTCAT $\tt CGCCCTCCTTGTGGCCCTGTTCGGCTTGCTGGTCTACCTTGCTGGGGCCCAAGTGTACCACCTGTGTGGAGGAGAA$ GGATTCCAAGGCCCGCCTGGTGCTCACCTCTGGGATTGTCTTTGTCATCTCAGGGGTCCTGACGCTAATCCCCGT GTGCTGGACGCCCATGCCGTCATCCGGGACTTCTATAACCCCCTGGTGGCTGAGGCCCAAAAGCGGGAGCTGGG AGTGGCAGTGCCCAACAGCTTTGGGATGGGTTCGTACCTTTTGTTTCTGCCTCCTGCTATTTTTCTTTTGACTGA GGATATTTAAAATTCATTTGAAAACTGAGCCAAGGTGTTGACTCAGACTCTCACTTAGGCTCTGCTGTTTCTCAC $\verb|CCTTGGATGATGGAGCCAAAGAGGGGATGCTTTGAGATTCTGGATCTTGACATGCCCATCTTAGAAGCCAGTCAA| \\$ GCTGCTGGGGGCTGGGCTTCCCTAGATGTCACTGGACAGCTGCCCCCCATCCTACTCAGGTCTCTGGAGCTCCTC TCTTCACCCCTGGAAAAACAAATGATCTGTTAACAAAGGACTGCCCACCTCCGGAACTTCTGACCTCTGTTTCCT CCGTCCTGATAAGACGTCCACCCCCAGGGCCAGGTCCCAGCTATGTAGACCCCCGCCCCCAGCTCCAACACTGC ACCCTTCTGCCCTGCCCCCTCGTCTCACCCCCTTTACACTCACATTTTTATCAAATAAAGCATGTTTTGTTAGT **GCAAAAAAAAAAAAAAAAA**

MASAGMQILGVVLTLLGWVNGLVSCALPMWKVTAFIGNSIVVAQVVWEGLWMSCVVQSTGQMQCKVYDSLLALPQ DLQAARALCVIALLVALFGLLVYLAGAKCTTCVEEKDSKARLVLTSGIVFVISGVLTLIPVCWTAHAVIRDFYNP LVAEAQKRELGASLYLGWAASGLLLLGGGLLCCTCPSGGSQGPSHYMARYSTSAPAISRGPSEŸPTKNYV

GCAGATGTGTCGGGCCTGGTGAGAGGGTGAGGCGAGACGGCCCGATCGCCCAGGGCCCCGGAAGCTGCGGAGGTC ACCCCGCCTGGCCTTAGCTCAGGGACACCCTGGATTCACGTGGGAGCCCCTGCTCCTGCCTCCCCGTCCCACC ${\tt ACTGAAGCTGTTGGGCCAGGCCAGTC} \underline{{\tt ATG}} {\tt CTAGAACGGCCTCCTGCACTGGCCCATGCCCACGGAGGGCCA}$ $\tt CCCCGCCACCTCTGAGTGGCACCCCCATCCCAGTCCCAGCCTACTTCCGCCACGCAGAACCTGGATTCTCCCTCA$ AGAGGCCCAGGGGGCTCAGCCGGAGCCTCCCACCTCCGCCCCTGCCAAGGGCAGCATTCCCATCAGCCGCCTCT TCCCTCCTCGGACCCCAGGCTGGCACCAGCTGCAGCCCCGGCGGGTGTCATTCCGGGGCGAGGCCTCAGAGACTC TGCAGAGCCCTGGGTATGACCCAAGCCGGCCAGAGTCCTTCTTCCAGCAGAGCTTCCAGAGGCTCAGCCGCCTGG TGTCACCATTCCGGGGCCCCAAGGACCGGGCCCGCAAGTTGGCCGAGGTGGGCAGCCACGAGAAGGTGGGCAGC ACCCATGCTGCGGGCTGGAGCAGGCCTGGGAGGAGGGGGGCATCCTGTACCTGCAGACGGAGCTGTGCGGGC CGCTGCTTGCCCTGGCCCATCTGCACAGCCAGGGCCTGGTGCACCTTGATGTCAAGCCTGCCAACATCTTCCTGG GGCCCCGGGGCCGCTGCAAGCTGGGTGACTTCGGACTGCTGGTGGAGCTGGGTACAGCAGGAGCTGGTGAGGTCC AGGAGGGAGACCCCCGCTACATGGCCCCCGAGCTGCTGCAGGGCTCCTATGGGACAGCAGCGGATGTGTTCAGTC TGGGCCTCACCATCCTGGAAGTGGCATGCAACATGGAGCTGCCCCACGGTGGGGAGGGCTGGCAGCAGCTGCGCC AGGGCTACCTGCCCCTGAGTTCACTGCCGGTCTGTCTTCCGAGCTGCGTTCTGTCCTTGTCATGATGCTGGAGC CAGACCCCAAGCTGCGGGCCACGGCCGAGGCCCTGCTGCTGCTGTGTTGAGGCAGCCGCGGGCCTGGGGTG TGCTGTGGTGCATGGCAGCGGAGGCCCTGAGCCGAGGGTGGGCCCTGTGGCAGGCCCTGCTTGCCCTGCT CACCCTGCAGTTTGCTCCTGGACAGCAGCTTCTCCAGCAACTGGGATGACGACAGCCTAGGGCCTTCACTCTCCC CTGAGGCTGTCCTGGCCCGGACTGTGGGGAGCACCTCCACCCCCGGAGCAGGTGCACACCCAGGGATGCCCTGG ACCTAAGTGACATCAACTCAGAGCCTCCTCGGGGGCTCCTTCCCCTCCTTTGAGCCTCGGAACCTCCTCAGCATGT $\tt TTGAGGACACCCTAGACCCAACC\underline{TGA}_{GCCCCAGATTCTGCCTCTGCACTTTTAACCTTTTATCCTGTGTCTCTCCCAGATTCTGCCTCTGCACTTTTAACCTTTTATCCTGTGTCTCTCCCAGATTCTGCCTCTGCACTTTTAACCTTTTATCCTGTGTCTCTCCCAGATTCTGCCTCTGCACTTTTAACCTTTTATCCTGTGTCTCTCCCAGATTCTGCCTCTGCACTTTTAACCTTTTATCCTGTGTCTCTCCCCAGATTCTGCCTCTGCACTTTTAACCTTTTATCCTGTGTCTCTCCCCAGATTCTGCCTCTGCACTTTTAACCTTTTATCCTGTGTCTCTCCCCAGATTCTGCCTCTGCACTTTTAACCTTTTATCCTGTGTCTCTCCCCAGATTCTGCCTCTGCACTTTTAACCTTTTATCCTGTGTCTCTCCCCAGATTCTGCACTTTTAACCTTTTAACCTTTTAACCTTTTAACCTTTTAACCTTCTCCCCAGATTCTCCCCAGATTCTGCACTTTTAACCTTTTAACCTTTTAACCTTTTAACCTTTTAACCTTTTAACCTTTTAACCTTCTCCCCAGATTCTCCCCAGATTCTCTCCCAGATTCTCTCCCAGATTCTCTCCCAGATTCTCTCCCAGATTCTCTCCCAGATTCTCTCCCAGATTCTCTCCCAGATTCTCTCCAGATTCTCTCCCAGATTCTCAGATTCTCCCAGATTCTCAGATTCTCCCAGATTCTCAGATTCTCCAGATTCTCAGATTCTCAGATTCTCAGATTCTCAGATTCTCAGATTCTCAGATTCTCAGATTCTCAGATTCTCAGATTCTCAGATTCTCAGATTCTCAGATTCTCAGATTCTCAGATTCTCAGATTCTCAGATTCTAGATTAGATTCTAGAT$ CGTCGCCCTTGAAAGCTGGGGCCCCTCGGGAACTCCCATGGTCTTCTCTGCCTGGCCGTGTCTAATAAAAAGTAT TTGAACCTTGAAAAAAAAAAAAAAAGAAG

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4773/6881 FIGURE 4403

MLERPPALAMPMPTEGTPPPLSGTPIPVPAYFRHAEPGFSLKRPRGLSRSLPPPPPAKGSIPISRLFPPRTPGWH QLQPRRVSFRGEASETLQSPGYDPSRPESFFQQSFQRLSRLGHGSYGEVFKVRSKEDGRLYAVKRSMSPFRGPKD RARKLAEVGSHEKVGQHPCCVRLEQAWEEGGILYLQTELCGPSLQQHCEAWGASLPEAQVWGYLRDTLLALAHLH SQGLVHLDVKPANIFLGPRGRCKLGDFGLLVELGTAGAGEVQEGDPRYMAPELLQGSYGTAADVFSLGLTILEVA CNMELPHGGEGWQQLRQGYLPPEFTAGLSSELRSVLVMMLEPDPKLRATAEALLALPVLRQPRAWGVLWCMAAEA LSRGWALWQALLALLCWLWHGLAHPASWLQPLGPPATPPDSPPCSLLLDSSFSSNWDDDSLGPSLSPEAVLARTV GSTSTPRSRCTPRDALDLSDINSEPPRGSFPSFEPRNLLSMFEDTLDPT

GGCCACCGCCGCCGCCGCCGCGAGCTGTCCCTGCGGCGCGTCTGCCTTGGCGAGCCGACCGCAGTGCGCTC AGGCGTCCGGTGCGTCCCCAGCCTCCGCCCCGGCGCGGGGGGCGACCGCACCGCGTGCGCAGCGCCGGAGGGGC CAGGCAGTGATGGGCCTTCCCGCGCTGCGGCCCCACTGAGGAGGAGGCTCGGGGACAGCAGGAGCACGGGCTGCC CGCGCGGTGCGGACCATGCGTTCCTGGCCGGGCCGCCCTGCTGGACTGGGCCAGCTCGCCGCCGCACCTGCAG CACAACGAACTGGGCAACATCTACACGCACGGGCTGGCCCTGCTGGGCCTTCCTGGTGCTGGTGCCAATGACCATG TCCGTGCTCTATCACCTCTTTATGTGCCACCAAGGGGGCAGCGCTGTGTACGCCCGGCTCCTCGCCCTGGACATG TGTGGGGTCTGCCTTGTCAACACCCTTGGGGCCCTGCCCATCATCCACTGCACCCTGGCCTGCAGGCCCTGGCTG CGCCCGGCTGCCCTGGTGGGCTACACTGTGTTGTCGGGTGTGGCCGGCTGGCGTGCTCTCACCGCCCCCTCCACC AGTGCTCGGCTCCGGGCATTTGGATGGCAGGCTGCTGCCCGCCTACTGGTATTTGGGGCCCGGGGAGTGGGTCTG GGTTCAGGGGCTCCAGGCTCCCTGCCTGCCTGCCATGGACGCACTGGCGCTGCTTGGGGGACTGGTAAAT GTAGCCCGTCTGCCCGAGCGCTGGGGGACCTGGCCGCTTTGACTACTGGGGCAACTCCCACCAGATCATGCACCTG CTGAGCGTGGGCTCCATCCTGCAGCTGCACGCCGGCGTCGTGCCCGACCTGCTCTGGGCTGCCCACCACCACGCCTGT CTCGTCTGCAAGGGGCTGCTCCTTGGATGCTTCCAGCTCATGAGATGTCTCAGCAGGAGCCCTGTTCACCCGTT CTATTTTACTGTGTCAGCTGGAAGGAAACCTTTCCCTCTTGGGACCTCTTTACCCTCTGTGACCTGTGGGGTTAG ACCAGAGAGGGACTCTGGGGTCACGTCTTGCTCTGAGAGTTCAAGTCCTGCCAGGCCGCCAGAGCCTCCT CACCCTATCCTGTTCCTCCCACCAGGCCTGTGGCCAGTCTTCCTGATCTCCATCTTTCTGCCCTGCATACCAGCC CTCCCAGCAGCCACAAGCTTGCCCGCCCTGGCTCCCTCTGCCCAGAGACTATGGAGTAAGGCATTCAGGACAAAA GGACCAAGGGGGCGTGGACCCGTCTTGTACCAGCTGGCCACAGGCACAAGGGCTGCAGCTGCTTCTTCCAGGAAA CTGACACAGGGAGCTCAGCGGCCTCAGATCCTGGGACCCCTGGGCCGTGCCTCCACCTTGAGTGCCATAC CAGCTGCTGGCCCAAGGCCAGGAGCGCTGGGTTCTGCAGCAGGGGCTCAGCCTCAGGGGGCGTTAAGACCCTGGATG ACATCAATAAAGGGACAGGAAGGCCATGTTGCCACATGAGCAAGCTTGGGTGCTCCCAAGGTTCAAATACTTTT TATTAGACACGGCCAGGCAGAGAAGACCATGGGAGTTCCCGAGGGGCCCCAGCTTTCAAGGGCGACGGGAGAGAC ACAGGATAAAAGGTTAAAAGTGCAGAGGCAGAGTCTGGGGCTCAGGTTGGGTCTAGGGTGTCCTCAAACAGGCTG AGGAGGTTCCGAGGCTCAAAGGAGGGGAAGGAGCCCCGAGGAGGCTCTGAGTTGATGTCACTTAGGTCCAGGGCA TCCCTGGGAGGAGAGAGTAGTGACACTCAGGATCCAAAAGCTAGCCCTGCCCACCCCAGCCCCTGGACCTGCTTA CCTGGGTGTGCACCTGCTCCGGGGGGTGGAGGTGCTCCCCACAGTCCGGGCCAGGACAGCCTCAGGGGAGAGTGA AGGCCTGCAGGAGGGCAGGCGAGACAAGGAGGGTGTCCAGGGCTAGGGAGTGCCGGATGAAACCAGCTCTGTCCC TGTGCAGGCTCCAGGCTCCGCCTGACAAACAGGCAGGGAGCCACAGTCAGGGACAATAAAAACTTGGTGCACTC TGAAAGCAGCACTTGGACAGCCTTCAAAGTCCTTCCATCTGGCTGCACTCCAAGGCCCCCTCTGTCCTTTTCAGA ACACATGGACTTGGAGGCAGATTTGAAATAAACTTTTAGTAAATGT

MAFLAGPRLLDWASSPPHLQFNKFVLTGYRPASSGSGCLRSLFYLHNELGNIYTHGLALLGFLVLVPMTMPWGQL GKDGWLGGTHCVACLAPPAGSVLYHLFMCHQGGSAVYARLLALDMCGVCLVNTLGALPIIHCTLACRPWLRPAAL VGYTVLSGVAGWRALTAPSTSARLRAFGWQAAARLLVFGARGVGLGSGAPGSLPCYLRMDALALLGGLVNVARLP ERWGPGRFDYWGNSHQIMHLLSVGSILQLHAGVVPDLLWAAHHACPRD

GGGAGACTGTCAGAGGACAACGCCCCTAGGTCTCCTGGGAGACCCCGAAGCGACCCCGGGGCCAGCCCGGGCCG $\tt TGTCCGGGCGAGGGTGACCTATCCTTGGTTGAGAGCG{\color{blue} \underline{ATG}} GGGACACAAGCCCTGCAGGGCTTCCTCTTTCTCCT$ CTTCCTCCCGCTGCTGCAGCCGCGTGGGGGCCTCGGCTGGGAGCCTGCACAGTCCAGGCCTGTCCGAATGCTTCCA GGACCAGACGCAGCAACACACAGCTACAGCAGCGCCAGCGACCCCCACGGCCGCTGGGGGCTGGGCGCCACAACTT CTGCCGTAACCCAGACGGTGACGTGCAGCCGTGGTGCTACGTGGCTGAGACAGAGGAGGGCATCTACTGGCGCTA CTGCGACATCCCCTCTGTCACATGCCAGGCTACCTGGGATGCTTTGTGGACTCAGGGGCACCCCCAGCCCTCAG CGGCCCCAGCGCACCTCCACGAAGCTCACGGTCCAGGTGTGCCTACGCTTCTGCCGCATGAAGGGGTACCAGCT GGCGGCCGTGGAGGCCGGTTACGCCTGCTTCTGTGGCTCTGAAAGCGACCTGGCCCGGGGACGCCTGGCCCCCGC AGTGTCGGTGGCCTCCCGGGGAACTGGACAGCGCCTCAGGGCGTCATCTACTCCCCGGACTTCCCGGACGA GTACGGGCCGGACCGGAACTGCAGCTGGGCCCTGGGCCCAGGCGCCGCGCTGGAGCTCACCTTCCGCCTCTT CGAGCTGGCCGACCCGCGCACCGGCTGGAGCTGCGCGACGCGGCTTCGGGCAGCCTGCTCCGCGCCTTCGATGG CGGCCACGCGCAAGGCTTCGCGCTCACCTACCGCGGGCTGCAGGACGCCGCTGAGGACCCCAGAGGCCCCCGAGGG CGCGATTGGGGGAGCTGTCTGCTGGCTCCGGGAAAAGGGCCCCCGGCGCTGGGGGCCTTCCAGGGGCCCCAGGAGA AGCTGGGCTGTGTGGTACCAACAGCCCCGAGGGTGGCCTTGCCCTGCTCCCCGGGGACCCCCAGGCTGAGGGT ${\tt TCTGCCGGGGGCTACCGGCCTC} \underline{{\tt TGA}} \underline{{\tt GTGCCTCCAGCCAGAGCTCCCTGCGCTCATCTCCGCTCTCTGACTC}$ CTTGCGCCTGTGTAGGGGCAGCTCGGCCTCTGGTCGCCTTGGGGAAAAAGTCGGACAGGAAACATCTGGTG $\verb|CTATTATCTGGGACTTGGCCTGACCGTGGGGGTCCAGATGGTCCAGGCCCTCTCCATGGACCTGTATGTGGGGGT|\\$ GGTCTCTGGTTTCGGAGGTCTTTGAACCCCTCTGGGGGTGCTCCTGGACTGCCGTCCTCAGTGAGAGGTCACAGG

MGTQALQGFLFLLFLPLLQPRGASAGSLHSPGLSECFQVNGADYRGHQNRTGPRGAGRPCLFWDQTQQHSYSSAS DPHGRWGLGAHNFCRNPDGDVQPWCYVAETEEGIYWRYCDIPSCHMPGYLGCFVDSGAPPALSGPSGTSTKLTVQ VCLRFCRMKGYQLAGVEAGYACFCGSESDLARGRLAPATDCDQICFGHPGQLCGGDGRLGVYEVSVGSCQGNWTA PQGVIYSPDFPDEYGPDRNCSWALGPPGAALELTFRLFELADPRDRLELRDAASGSLLRAFDGARPPPSGPLRLG TAALLLTFRSDARGHAQGFALTYRGLQDAAEDPEAPEGSAQTPAAPLDGANVSCSPRPGAPPAAIGGAVCWLREK GPRRWGLPGAPGEAGLCGTNSPEGWPCPAPPGTPRLRVLPRATGL

PCT/US2003/028547

4778/6881 FIGURE 4408

GGCTGGACTCAGGAAGCCGGAGTCGCAGGAGGCGGCGCCGTTATCAGGACCATGCGGCCGACGGGTCATCACGTC GCGCATCGTGGGTGGAGAGGACGCCGAACTCGGGCGTTGGCCGTGGCAGGGGAGCCTGCGCCTGTGGGATTCCCA CGTATGCGGAGTGAGCCTCAGCCACCGCTGGGCACTCACGGCGCGCACTGCTTTGAAACCTATAGTGACCT TAGTGATCCCTCCGGGTGGATGGTCCAGTTTGGCCAGCTGACTTCCATGCCATCCTTCTGGAGCCTGCAGGCCTA CTACACCCGTTACTTCGTATCGAATATCTATCTGAGCCCTCGCTACCTGGGGAATTCACCCTATGACATTGCCTT GGTGAAGCTGTCTGCACCTGTCACCTACACTAAACACATCCAGCCCATCTGTCTCCAGGCCTCCACATTTGAGTT TGAGAACCGGACAGACTGCTGGGTGACTGGCTGGGGGTACATCAAAGAGGATGAGGCACTGCCATCTCCCCACAC $\verb|CCTCCAGGAAGTTCAGGTCGCCATCATAAACAACTCTATGTGCAACCACCTCTTCCTCAAGTACAGTTTCCGCAA| \\$ GGACATCTTTGGAGACATGGTTTGTGCTGGCAATGCCCAAGGCGGGAAGGATGCCTGCTTCGGTGACTCAGGTGG $\verb|ACCCTTGGCCTGTAACAAGAATGGACTGTGGTATCAGATTGGAGTCGTGAGCTGGGGGAGTGGGCTGTGGTCGGCC||$ CAATCGGCCCGGTGTCTACACCAATATCAGCCACCACTTTGAGTGGATCCAGAAGCTGATGGCCCAGAGTGGCAT $\tt GTCCCAGCCAGACCCCTCCTGGCCGCTACTCTTTTTCCCTCTTCTCTGGGCCTCTCCCACTCCTGGGGCCGGTC\underline{\textbf{TG}}$ AGCCTACCTGAGCCCATGCAGCCTGGGGCCACTGCCAAGTCAGGCCCTGGTTCTCTTCTTGTTTTGGTAATA AACACATTCCAGTTGATGCCTTGCAGGGCATTCTTCAAAA

PCT/US2003/028547

4779/6881 FIGURE 4409

MGARGALLLALLLARAGLRKPESQEAAPLSGPCGRRVITSRIVGGEDAELGRWPWQGSLRLWDSHVCGVSLLSHR WALTAAHCFETYSDLSDPSGWMVQFGQLTSMPSFWSLQAYYTRYFVSNIYLSPRYLGNSPYDIALVKLSAPVTYT KHIQPICLQASTFEFENRTDCWVTGWGYIKEDEALPSPHTLQEVQVAIINNSMCNHLFLKYSFRKDIFGDMVCAG NAQGGKDACFGDSGGPLACNKNGLWYQIGVVSWGVGCGRPNRPGVYTNISHHFEWIQKLMAQSGMSQPDPSWPLL FFPLLWALPLLGPV

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4780/6881 FIGURE 4410A

GCAGCGCGCCCAGGCGGGGTGCGAGTGGCGCAGTTGGAGCCCGTTGCGGCCCCTGAGGAAGCGAGGAGGCGTCG GCGTCGGCTGAGGCGGCGGACCGGCGAGGCGAGGCGGCCCCAGGCCCGAGGGACTCGGGAGCTCGAGCAGC GGGCCATGTACAACGGGATCGGGCTGCCGACGCCCCGGGGCAGCGCACCAACGGCTACGTCCAGCGCAACCTGT CCCTGGTGCGGGGCCGCCGGGGTGAGCGGCCTGACTACAAGGGAGGAGGAACTGCGGCGCCTGGAGGCTGCCC TGGTGAAGCGGCCTAATCCTGACATCCTGGACCACGAGCGCAAGCGGCGCGTCGAGCTGCGATGCCTCGAGCTGG AGGAGATGATGGAAGAGCAGGGTACGAGGAACAGCAAATTCAGGAAAAAGTGGCGACCTTTCGACTCATGTTGC TGGAGAAGGATGTGAACCCTGGGGGCAAGGAGGAGACCCCAGGGCAGAGGCCAGCGGTCACGGAGACTCACCAGT TGGCAGAATTAAATGAGAAGAAGAATGAAAGACTCCGTGCTGCCTTTGGCATCAGTGATTCTTACGTAGATGGCA GCTCTTTTGATCCTCAGCGTCGTGCCCGAGAAGCTAAACAACCAGCTCCTGAGCCTCCCAAACCTTACAGCCTTG GGTCAGAGAGCAGCTCTCCTCGACGGGAGAGAAAGAAAGCTCAAAGAAGAAGAAGCACAGGTCAGAATCTGAGT CCAAGAAACGTAAGCATAGGTCTCCCACTCCAAAGAGCAAACGTAAATCTAAGGACAAAAAGCGAAAGCGGTCTC GAAGTACAACACCAGCCCCCAAGAGCCGCCGGGCCCACCGTTCAACTTCTGCTGACTCTGCTTCCTCCTCCGATA CTTCCCGCAGTCGGTCTCGAAGTGCTGCAGCTAAAACTCATACAACTGCCTTGGCTGGGCGAAGTCCTTCCCCTG CGGAGACTGCTACGAAACAGCCTAGCAGCCCTTATGAAGACAAAGATAAAGACAAGAAGGAGAAATCTGCAACTC GACCTAGCCCCTCTCCGGAAAGGAGCAGCACAGGCCCAGAACCACCTGCTCCCACTCCGCTCCTTGCTGAGCGAC ATGGCGGCTCCCCACAACCCCTTGCAACCACCCCCTTAAGCCAGGAGCCAGTGAACCCCCCATCTGAGGCCTCTC CAACTCGGGACCGTTCACCACCTAAGTCTCCCGAGAAACTTCCCCAGTCTTCTTCCTCAGAGAGCAGCCCACCAT CCCCTCAACCTACCAAAGTTTCTCGGCATGCCAGCTCTTCCCCAGAAAGTCCTAAACCTGCTCCAGCTCCAGGGT CCCACCGAGAGATTTCTTCTCCCCACATCTAAGAATCGCTCACATGGCCGAGCAAAACGGGATAAATCACATT $\verb|CTCATACCCCCTCCGTAGGATGGGGAGGTCCCGTAGCCCTGCCACCGCTAAGAGAGGGGGGATCTCGGAA| \\$ CCCCTACCAAGAGAGGTCATTCTCGATCCCGATCTCCCCAGTGGCGTAGGTCCAGGTCTGCACAGAGGTGGGGAA GATCTAGAAGCCCCCAGCGACGTGGCCGCTCTAGGTCTCCTCAGCGACCAGGCTGGTCTAGGAGCAGAAATACCC AGAGAAGAGGCAGGTCTAGGTCAGCAAGGCGAGGGAGGTCCCACTCTAGATCCCCAGCCACTAGGGGTAGATCTC GTTCTAGAACACCAGCCCGCGGGGCAGGTCCCGCTCTAGAACACCTGCCAGGCGGAGATCACGATCCAGAACTC CCACCAGGCGTAGGTCTCGGTCTAGAACACCAGCCCGGAGGGGCAGGTCTCGGTCTAGAACACCTGCTAGGCGCA GAGGAAGATCCCGCAGTAGAAGCTTAGTTAGACGTGGAAGATCTCACTCTAGAACACCTCAAAGAAGAGGCAGAT CTGGCTCATCTTCAGAGCGGAAAAACAAATCCAGAACATCTCAAAGAAGAAGCAGGTCCAATTCAAGCCCAGAAA CTTTGAGGCGCAGCCTTTCAGGGTCTTCCCCATGCCCTAAACAAAAGTCACAGACACCACCCAGGCGCAGTCGCT CTGGATCCTCCCAACCTAAAGCTAAATCTAGAACGCCACCCAGACGCAGTCGCTCCAGTTCTTCTCCGCCACCTA AACAGAAATCTAAGACACCATCAAGACAAAGTCATTCCAGTTCATCTCATCCTAAAGTGAAATCTGGAACAC CACCGAGGCAAGGGTCCATAACAAGTCCCCAGGCCAATGAGCAATCTGTAACGCCACAGAGACGGAGCTGTTTTG AATCATCACCTGACCCTGAGTTGAAATCTAGGACCCCTTCTAGACATAGCTGCTCAGGGTCCTCCTCCTAGAG TGAAATCTAGCACACCTCCCAGACAGAGCCCATCTAGGTCATCTCCCACAACCCAAAGTGAAGGCAATAATAT CACCAAGACAAAGAAGCCATTCTGGCTCCTCTTCTCCAAGTCCTAGTAGGGTGACGTCGAGAACAACTCCACGGC GAAGCAGATCAGTATCTCCCTGCTCCAATGTGGAATCCAGATTGTTGCCAAGATACAGTCATTCTGGGTCCTCCT CACCAGATACCAAAGTGAAACCTGAAACACCGCCAAGACAAGTCACTCAGGGTCTATTTCACCATACCCCAAAG TAAAGGCCCAAACTCCACCGGGGCCAAGTCTTTCTGGATCAAAGTCACCATGTCCCCAAGAGAAGTCTAAAGACT CACTAGTTCAAAGTTGCCCTGGATCCCTCTCTCTCTGTGCAGGAGTAAAATCTAGCACCACCAGGCGAGAGCT ATTTTGGTGTCTCATCTCTGCAACTGAAAGGACAATCTCAAACTTCACCAGACCACAGATCTGATACTTCAAGTC CAGAAGTGAGACAGAGTCATTCAGAATCACCATCTCTGCAGAGCAAATCTCAAACATCACCTAAGGGAGGTCGGT CCAGGTCTTCATCTCCAGTCACTGAGCTGGCATCCAGATCTCCAATAAGACAAGATAGAGGTGAGTTCTCAGCGA WO 2004/030615 PCT/US2003/028547

FIGURE 4410B

ACTCGAATTCTCTCTTGGGGCAGAGTAGATTGGAGACTGCTGAATCAAAAGAGAAAATGGCCTTACCCCCTCAGG AGGATGCTACTGCATCACCTCCTAGACAGAAAGACAAATTTAGTCCCTTTCCAGTACAGGATAGGCCTGAGTCTT CACTGGTATTCAAAGACACACTTAGAACCCCGCCAAGGGAAAGAAGTGGTGCTGGGTCATCTCCAGAAACAAAAG AGCAAAATAGTGCATTGCCTACGTCAAGCCAAGATGAAGAGTTAATGGAGGTGGTAGAGAAGTCTGAAGAACCCG CAGGCCAAATCCTGTCTCATTTGTCTTCAGAACTTAAAGAAATGTCCACAAGTAACTTTGAATCATCTCCTGAAG TAGAAGAAGGCCTGCTGTGTCTTTGACTCTTGATCAGAGCCAGTCACAGGCTTCTTTGGAAGCAGTAGAAGTCC CTTCAATGGCCTCATCTTGGGGTGGGCCACATTTTTCTCCAGAACATAAAGAACTGTCTAACTCCCCACTCAGGG AGAACAGCTTTGGATCACCTTTAGAATTTAGAAACTCAGGCCCACTTGGTACAGAAATGAATACTGGATTTTCTT AATCGACAAGATCCTCTGGACACAGCAGTTCTGAGTTATCCCCAGATGCAGTGGAAAAGGCAGGGATGTCTTCAA CTCCTGAAATGAAAGATGGTTTACCCAGAACTCCATCAAGGAGAAGCAGGTCTGGGTCTTCTCCAGGACTTAGAG ATGGGTCTGGGACTCCCTCGAGGCACAGCCTGTCTGGGTCCTCTCCTGGAATGAAAGATATACCTAGAACGCCAT CTAGAGGGAGAAGCGAATGTGATTCTTCCCCAGAACCGAAAGCTTTGCCTCAGACTCCTAGGCCGAGGAGTCGTT CTCCATCATCCCCAGAGCTCAACAACAAGTGTCTTACCCCCCAGAGAAAAAGAAGCGGGTCAGAATCATCAGTTG ATCAGAAAACTGTGGCTCGGACTCCCCTGGGGCAGAGAAGTCGTTCGGGATCCTCTCAAGAACTTGATGTGAAAC CCAGTGCATCCCCTCAGGAAAGAAGTGAGTCAGACTCTTCTCCAGATTCTAAAGCCAAGACAAGAACCCCACTTC GGCAGAGGAGTCGGTCTGGATCATCTCCAGAGGTTGACAGCAAATCTCGACTATCCCCTCGGCGCAGTAGGTCTG GTTCCTCCCCTGAAGTGAAAGATAAGCCAAGAGCACCCAGGGCACAGAGTGGTTCTGATTCCTCTCTGAAC CTAAAGCTCCAGCCCCTCGGGCCCTTCCCAGACGAAGCAGATCAGGTTCATCAAGCAAAGGCAGAGGCCCTTCTC CTGAAGGAAGCAGCAGTACCGAGTCCTCCTGAACATCCGCCCAAATCCAGAACTGCTCGCAGAGGTTCCAGGT CATCACCAGAGCCCAAGACCAAGTCTCGTACACCACCTCGACGTCGCAGCTCTCGATCATCTCCGGAGCTAACAA GGAAGGCCAGACTGTCCCGTAGAAGCCGCTCTGCCTCATCCTCACCAGAAACTCGCTCTAGAACTCCCCCAAGGC ACCGGAGAAGTCCCTCAGTGTCTTCCCCGGAGCCAGCCGAAAAATCGAGGTCTTCACGCCGACGGCGCTCAGCTT CATCTCCACGCACTAAGACAACCTCAAGGAGAGGCCGCTCTCCTTCGCCAAAGCCTCGTGGACTCCAGAGGTCCC GTTCCCGCTCAAGGAGAGAGAAAACAAGAACAACCCGACGTCGAGATAGGTCTGGATCTTCTCAGTCAACCTCTC CACCTGCCGGCAGGAAAGTTCCCGGACCTCCTCTCGACGCCGAAGAGGCCGCTCTCGGACACCCCCAACCAGTC GGAAGCGTTCTCGCTCACGCACATCACCAGCCCCGTGGAAACGCTCTAGATCTCGAGCCTCTCCAGCCACTCACC GGCGATCCAGGTCCAGAACCCCCCTGATAAGCCGACGTAGGTCCAGATCTCGAACTTCACCAGTCAGCCGGAGAC GGTCAAGGTCCAGGACTTCAGTGACTCGACGAAGATCCCGGTCAAGAGCATCCCCAGTGAGCAGAAGGCGATCCA GATCCAGAACGCCACCAGTAACCCGCCGTCGTTCAAGGTCTAGAACGCCAACAACACCGCCGCCGCTCCCGTTCTA GAACTCCACCAGTGACTCGCAGAAGGTCCAGATCCAGGACTCCACCAGTAACCAGGAGGCGATCTCGAAGCAGAA CTTCGCCTATCACTCGCAGAAGATCAAGATCCAGAACATCTCCGGTCACCCGAAGGAGATCTCGATCTCGCACAT CTCCAGTAACTCGAAGAAGGTCCCGCTCTCGAACCTCACCAGTGACACGCCGCCGCTCTAGGTCCCGGACACCTC CAGCACAGGATCAGCCGAGGTCTCCTGTGCCTTCTGCTTTTTCAGACCAATCCCGTTGTTTGATTGCCCAGACCA CCCCTGTAGCAGGGTCTCAGTCCCTTTCCTCTGGGGCAGTGGCAACGACCACGTCCTCTGCTGGTGATCACAATG GCATGCTCTCTGTCCCTGCCCCTGGGGTGCCCCACTCTGATGTGGGGGAGCCACCTGCCTCTACTGGGGCCCAGC AGCCTTCTGCATTAGCCGCCCTGCAGCCAGCAAAGGAGCGGCGGAGTTCCTCCTCGTCGTCGTCCTCTAGCT CCTCCTCCTCATCATCGTCGTCGTCGTCCTCCTCCTCCTCTGGCTCCAGTTCTAGTGACTCAGAGGGCTCTA GCCTTCCTGTGCAACCTGAGGTGGCACTGAAGAGGGTCCCCAGCCCCAGCCCCAAAGGAGGCTGTTCGAG AGGGACGTCCTCCGGAGCCAACCCCAGCCAAACGGAAGAGGCGCTCTAGCAGTTCCAGTTCCAGCTCCTCTTT CCTCCTCGTCGTCTTCCCCCTTCCCCTGCTAAGCCTGGCCCTCAGGCCTTGCCCAAACCTGCAAGCCCCAAGA AGCCACCCCTGGCGAGCGGAGGTCCCGCAGCCCCCGGAAGCCAATAGACTCCCTCAGGGACTCTCGGTCCCTCA

4782/6881 FIGURE 4410C

GCCAGGCGGGGCCCGAGGCCCGACGCTGGCCGAGGTGCTGAGCCGCCGGTGCGTCCCCCAGGCTGGTGGCCGA GCTGCAGGGCGCCCTGGACGCCTGCGCACAGCGACAATTGCAATTGGAGCAGAGCCTGCGCGTTTGCCGTCGGCT GCTGCATGCCTGGGAACCAACTGGGACCCGGGCTTTGAAGCCACCTCCAGGGCCAGAAACTAATGGAGAGGACCC CCTTCCAGCATGCACACCCAGTCCACAAGACCTCAAAGAGTTGGAGTTTCTGACCCAGGCACTGGAGAAGGCTGT ACGAGTTCGAAGAGGCATCACTAAGGCCGGAGAGAGAGACAAGGCCCCCAGCCTGAAATCTAGGTCCATTGTCAC CTCTTCTGGCACGACAGCCTCCGCCCCACCGCATTCCCCAGGCCAAGCTGGTGGCCATGCTTCAGACACGAGACC CACCAAGGGCCTCCGCCAGACCACGGTGCCTGCCAAGGGCCACCCTGAGCGCCGGCTGCTGTCAGTGGGGGATGG GACCCGTGTTGGG<u>ATG</u>GGAGCCCGAACCCCCAGGCCTGGGGCGGGCCTCAGGGACCAGCAAATGGCCCCATCCGC AGCAGCTTCCCAGAACTCGAGCCTGTGGGCCCAGCTCAGTTCCACAGACCAGTGATTCCACGGATGCCGCCGC TGCCAAAACCCAGTTCCTCCAGAACATGCAGACAGCTTCAGGCGGGCCCCAGCCCAGGCTCAGTGCTGTGGAGGT $\verb|CCCCATGGACTGGATGCAGGAGTACCGCTGCCTCACGCTGGAGGGGCTGCAGGCCATGGTGGGCCAGTGTCT| \\$ GCACAGGCTGCAGGAGCTGCGGTGCAGCGGTGGCGGAACAGCCACAAGACCATGTCCTGTGGGGAGGCCCCCCGG AGCCTCGCCGTCCTGTGGGGGTAGAGCGGAGCCTGCATGGAGCCCCCAGCTGCTTGTCTACTCCAGCACCCAGGA GCTGCAGACCCTGGCGGCCCTCAAGCTGCGAGTGGCTGTGCTGGACCAGCAGATCCACTTGGAAAAGGTCCTGAT CAGCCTGCTCTGCGAGGGAGGAGCACGTGTCCTTACCATCCTGCGGGATGAACCTGCAGTCTGAGCCTTTCCCAT GCTGCCCTCGGCCTGTTCAGATGGGGATTGGGGGTGTCTTCCCTGGCACTGTGCTCGGGGACCCAGAGATGCCTG TGCTTCCCTGGGAAACCTGGTGAACTGGACCAGGTGGCCTCACTGGCTCTTCTCAGGACAACTAAGCCTGCTGGT CAGGGCTGGCTTCCAGCCTTCCTAAGGCTCCTGGACTCCAGAGGCCAGCGGGGGAGCCTTTCCTGGCTCCCTCTGT TTTCTCTCACTGTAGACCAAAGAGCCGCTTGTGTGATATTAAAGCCACTTTAGAAAGC

MGARTPRPGAGLRDQQMAPSAAPQAPEAFTLKEKGHLLRLPAAFRKAASQNSSLWAQLSSTQTSDSTDAAAAKTQ FLQNMQTASGGPQPRLSAVEVEAEAGRLRKACSLLRLRMREELSAAPMDWMQEYRCLLTLEGLQAMVGQCLHRLQ ELRAAVAEQPPRPCPVGRPPGASPSCGGRAEPAWSPQLLVYSSTQELQTLAALKLRVAVLDQQIHLEKVLMAELL PLVSAAQPQGPPWLALCRAVHSLLCEGGARVLTILRDEPAV

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4785/6881 FIGURE 4413A

GCAGCGCGCCCAGGCGGGGTGCGAGTGGCGCAGTTGGAGCCCGTTGCGGCCCCTGAGGAAGCGAGGAGGCGTCG GCGTCGGCTGAGGCGGCGGACCGGCGAGGCGAGGCGAGCCCCAGGCCCGAGGACCTCGGGAGCTCGAGCAG GGGGCCATGTACAACGGGATCGGGCTGCCGACGCCCCGGGGCAGCGCACCAACGGCTACGTCCAGCGCAACCTG TCCCTGGTGCGGGCCCCGGGGTGAGCCGCCTGACTACAAGGGAGAGGAGGAGCTGCGGCGCCTGGAGGCTGCC CTGGTGAAGCGGCCTAATCCTGACATCCTGGACCACGAGCGCAAGCGGCGCGCGTCGAGCTGCGATGCCTCGAGCTG GAGGAGATGATGGAAGAGCAGGGTACGAGGAACAGCAAATTCAGGAAAAAGTGGCGACCTTTCGACTCATGTTG CTGGAGAAGGATGTGAACCCTGGGGGCAAGGAGGACCCCAGGGCAGAGGCCAGCGGTCACGGAGACTCACCAG TTGGCAGAATTAAATGAGAAGAAGAATGAAAGACTCCGTGCTGCCTTTGGCATCAGTGATTCTTACGTAGATGGC AGCTCTTTTGATCCTCAGCGTCGTGCCCGAGAAGCTAAACAACCAGCTCCTGAGCCTCCCAAACCTTACAGCCTT TCCAAGAAACGTAAGCATAGGTCTCCCACTCCAAAGAGCAAACGTAAATCTAAGGACAAAAAGCGAAAGCGGTCT CGAAGTACAACACCAGCCCCCAAGAGCCGCCGGGCCCACCGTTCAACTTCTGCTGACTCTGCTTCCTCCTCCGAT ACTTCCCGCAGTCGGTCTCGAAGTGCTGCAGCTAAAACTCATACAACTGCCTTGGCTGGGCGAAGTCCTTCCCCT GCTTCAGGGCGACGCGGGGAGGGAGATGCGCCTTTCAGTGAACCAGGTACTACCAGCACACAACGGCCTAGTAGC CCGGAGACTGCTACGAAACAGCCTAGCAGCCCTTATGAAGACAAAGATAAAGACAAGAAGGAGAAATCTGCAACT CGACCTAGCCCCTCTCCGGAAAGGAGCACACAGGCCCAGAACCACCTGCTCCCACTCCGCTCCTTGCTGAGCGA CATGGCGGCTCCCCACAACCCCTTGCAACCACCCCCTTAAGCCAGGAGCCAGTGAACCCCCCATCTGAGGCCTCT CCAACTCGGGACCGTTCACCACCTAAGTCTCCCGAGAAACTTCCCCAGTCTTCTTCCTCAGAGAGCAGCCCACCA TCCCCTCAACCTACCAAAGTTTCTCGGCATGCCAGCTCTTCCCCAGAAAGTCCTAAACCTGCTCCAGCTCCAGGG TCCCACCGAGAGATTTCTTCTCCCCACATCTAAGAATCGCTCACATGGCCGAGCAAAACGGGATAAATCACAT TCTCATACCCCTCCCGTAGGATGGGGAGGTCCCGTAGCCCTGCCACCGCTAAGAGAGGGGGGATCTCGGA ACCCCTACCAAGAGAGGTCATTCTCGATCCCGATCTCCCCAGTGGCGTAGGTCCAGGTCTGCACAGAGGTGGGGA AGATCTAGAAGCCCCCAGCGACGTGGCCGCTCTAGGTCTCCTCAGCGACCAGGCTGGTCTAGGAGCAGAAATACC CAGAGAAGAGGCAGGTCTAGGTCAGCAAGGCGAGGGAGGTCCCACTCTAGATCCCCAGCCACTAGGGGTAGATCT CGTTCTAGAACACCAGCCCGCCGGGGCAGGTCCCGCTCTAGAACACCTGCCAGGCGGAGATCACGATCCAGAACT CCCACCAGGCGTAGGTCTCGGTCTAGAACACCAGCCCGGAGGGGCAGGTCTCGGTCTAGAACACCTGCTAGGCGC CGAGGAAGATCCCGCAGTAGAAGCTTAGTTAGACGTGGAAGATCTCACTCTAGAACACCTCAAAGAAGAGGCAGA TCTGGCTCATCTTCAGAGCGGAAAAACAAATCCAGAACATCTCAAAGAAGAAGCAGGTCCAATTCAAGCCCAGAA TCTTTGAGGCGCAGCCTTTCAGGGTCTTCCCCATGCCCTAAACAAAAGTCACAGACACCCCAGGCGCAGTCGC TCTGGATCCTCCCAACCTAAAGCTAAATCTAGAACGCCACCCAGACGCAGTCGCTCCAGTTCTTCTCCGCCACCT AAACAGAAATCTAAGACACCATCAAGACAAAGTCATTCCAGTTCATCTCCTCATCCTAAAGTGAAATCTGGAACA CCACCGAGGCAAGGGTCCATAACAAGTCCCCAGGCCAATGAGCAATCTGTAACGCCACAGAGACGGAGCTGTTTT GAATCATCACCTGACCCTGAGTTGAAATCTAGGACCCCTTCTAGACATAGCTGCTCAGGGTCCTCCTCCTAGA GTGAAATCTAGCACACCTCCCAGACAGAGCCCATCTAGGTCATCATCTCCACAACCCAAAGTGAAGGCAATAATA TCACCAAGACAAAGAAGCCATTCTGGCTCCTCTTCTCCAAGTCCTAGTAGGGTGACGTCGAGAACAACTCCACGG CGAAGCAGATCAGTATCTCCCTGCTCCAATGTGGAATCCAGATTGTTGCCAAGATACAGTCATTCTGGGTCCTCC TCACCAGATACCAAAGTGAAACCTGAAACACCGCCAAGACAAAGTCACTCAGGGTCTATTTCACCATACCCCAAA GTAAAGGCCCAAACTCCACCGGGGCCAAGTCTTTCTGGATCAAAGTCACCATGTCCCCAAGAGAAGTCTAAAGAC TCACTAGTTCAAAGTTGCCCTGGATCCCTCTCTCTCTGTGCAGGAGTAAAATCTAGCACCACCAGCGAGAGC TATTTTGGTGTCTCATCTCTGCAACTGAAAGGACAATCTCAAACTTCACCAGACCACAGATCTGATACTTCAAGT CCAGAAGTGAGACAGAGTCATTCAGAATCACCATCTCTGCAGAGCAAATCTCAAACATCACCTAAGGGAGGTCGG TCCAGGTCTTCATCTCCAGTCACTGAGCTGGCATCCAGATCTCCAATAAGACAAGATAGAGGTGAGTTCTCAGCG

4786/6881 FIGURE 4413B

AGTCCTATGTTGAAATCTGGAATGTCTCCTGAGCAGAGCAGGTTCCAGTCTGACTCTTCTTCATATCCTACAGTG GACTCGAATTCTCTCTGGGGCAGAGTAGATTGGAGACTGCTGAATCAAAAGAGAAAATGGCCTTACCCCCTCAG GAGGATGCTACTGCATCACCTCCTAGACAGAAAGACAAATTTAGTCCCTTTCCAGTACAGGATAGGCCTGAGTCT TCACTGGTATTCAAAGACACACTTAGAACCCCGCCAAGGGAAAGAAGTGGTGCTGGGTCATCTCCAGAAACAAAA GAGCAAAATAGTGCATTGCCTACGTCAAGCCAAGATGAAGAGTTAATGGAGGTGGTAGAGAAGTCTGAAGAACCC GCAGGCCAAATCCTGTCTCATTTGTCTTCAGAACTTAAAGAAATGTCCACAAGTAACTTTGAATCATCTCCTGAA GTAGAAGAAGGCCTGCTGTGTCTTTGACTCTTGATCAGAGCCAGTCACAGGCTTCTTTGGAAGCAGTAGAAGTC CCTTCAATGGCCTCATCTTGGGGTGGGCCACATTTTTCTCCAGAACATAAAGAACTGTCTAACTCCCCACTCAGG GAGAACAGCTTTGGATCACCTTTAGAATTTAGAAACTCAGGCCCACTTGGTACAGAAATGAATACTGGATTTTCT TCTGAGGTTAAAGAAGATTTGAATGGACCGTTTCTTAATCAGCTGGAAACAGATCCATCTCTAGACATGAAAGAA CAATCGACAAGATCCTCTGGACACAGCAGTTCTGAGTTATCCCCAGATGCAGTGGAAAAGGCAGGGATGTCTTCA TCTCCTGAAATGAAAGATGGTTTACCCAGAACTCCATCAAGGAGAAGCAGGTCTGGGTCTTCTCCAGGACTTAGA GATGGGTCTGGGACTCCCTCGAGGCACAGCCTGTCTGGGTCCTCTCCTGGAATGAAAGATATACCTAGAACGCCA TCTAGAGGGAGAAGCGAATGTGATTCTTCCCCAGAACCGAAAGCTTTGCCTCAGACTCCTAGGCCGAGGAGTCGT GATCAGAAAACTGTGGCTCGGACTCCCCTGGGGCAGAGAAGTCGTTCGGGATCCTCTCAAGAACTTGATGTGAAA CCCAGTGCATCCCCTCAGGAAAGAAGTGAGTCAGACTCTTCTCCAGATTCTAAAGCCAAGACAAGAACCCCACTT CGGCAGAGGAGTCGGTCTGGATCATCTCCAGAGGTTGACAGCAAATCTCGACTATCCCCTCGGCGCAGTAGGTCT GGTTCCTCCCTGAAGTGAAAGATAAGCCAAGAGCAGCACCCAGGGCACAGAGTGGTTCTGATTCCTCCTGAA CCTAAAGCTCCAGCCCCTCGGGCCCTTCCCAGACGAAGCAGATCAGGTTCATCAAGCAAAGGCAGAGGCCCTTCT CCTGAAGGAAGCAGCAGTACCGAGTCCTCTCCTGAACATCCGCCCAAATCCAGAACTGCTCGCAGAGGTTCCAGG TCATCACCAGAGCCCAAGACCAAGTCTCGTACACCACCTCGACGTCGCAGCTCTCGATCATCTCCGGAGCTAACA AGGAAGGCCAGACTGTCCCGTAGAAGCCGCTCTGCCTCATCCTCACCAGAAACTCGCTCTAGAACTCCCCCAAGG CACCGGAGAAGTCCCTCAGTGTCTTCCCCGGAGCCAGCCGAAAAATCGAGGTCTTCACGCCGACGGCGCTCAGCT TCATCTCCACGCACTAAGACAACCTCAAGGAGAGGCCGCTCTCCTTCGCCAAAGCCTCGTGGACTCCAGAGGTCC CGTTCCCGCTCAAGGAGAGAAAACAAGAACAACCCGACGTCGAGATAGGTCTGGATCTTCTCAGTCAACCTCT CGGCGAAGACAGCGGAGCCGGTCAAGGTCGCGGGTTACTCGGCGGCGGAGGGGAGGCTCTGGTTATCACTCAAGG TCACCTGCCCGGCAGGAAAGTTCCCGGACCTCCTCTCGACGCCGAAGAGGCCGCTCTCGGACACCCCCAACCAGT CGGAAGCGTTCTCGCTCACGCACATCACCAGCCCCGTGGAAACGCTCTAGATCTCGAGCCTCTCCAGCCACTCAC CGGCGATCCAGGTCCAGAACCCCCCTGATAAGCCGACGTAGGTCCAGATCTCGAACTTCACCAGTCAGCCGGAGA CGGTCAAGGTCCAGGACTTCAGTGACTCGACGAAGATCCCGGTCAAGAGCATCCCCAGTGAGCAGAAGGCGATCC AGATCCAGAACGCCACCAGTAACCCGCCGTCGTTCAAGGTCTAGAACGCCAACAACACGCCGCCGCCCGTTCT AGAACTCCACCAGTGACTCGCAGAAGGTCCAGATCCAGGACTCCACCAGTAACCAGGAGGCGATCTCGAAGCAGA ACTTCGCCTATCACTCGCAGAAGATCAAGATCCAGAACATCTCCGGTCACCCGAAGGAGATCTCGATCTCGCACA TCTCCAGTAACTCGAAGAAGGTCCCGCTCTCGAACCTCACCAGTGACACGCCGCCGCTCTAGGTCCCGGACACCT CCAGCACAGGATCAGCCGAGGTCTCCTGTGCCTTCTGCTTTTTCAGACCAATCCCGTTGTTTGATTGCCCAGACC ACCCCTGTAGCAGGGTCTCAGTCCCTTTCCTCTGGGGCAGTGGCAACGACCACGTCCTCTGCTGGTGATCACAAT GGCATGCTCTCTGTCCCTGCCCCTGGGGTGCCCCACTCTGATGTGGGGGAGCCACCTGCCTCTACTGGGGCCCAG TCCTCCTCTTCTTCATCATCGTCGTCGTCCTCCTCCTCCTCTCTCGCTCCAGTTCTAGTGACTCAGAGGGCTCT AGCCTTCCTGTGCAACCTGAGGTGGCACTGAAGAGGGTCCCCAGCCCCAGCCCCAAAGGAGGCTGTTCGA GAGGGACGTCCTCCGGAGCCAACCCCAGCCAAACGGAAGAGGCGCTCTAGCAGTTCCAGTTCCAGCTCCTCTCT TCCTCCTCGTCGTCTCCCCCTTCCCCTGCTAAGCCTGGCCCTCAGGCCTTGCCCAAACCTGCAAGCCCCAAG AAGCCACCCCTGGCGAGCGGAGGTCCCGCAGCCCCCGGAAGCCAATAGACTCCCTCAGGGACTCTCGGTCCCTC AGCTACTCGCCTGTGGAGCGTCGCCGTCCCTCGCCCCAGCCCTCACCACGGGACCAGCAGCAGCAGCAGCAGTGAG WO 2004/030615 PCT/US2003/028547

4787/6881 FIGURE 4413C

GGCGGCCGTGCCGGGAGGAAAACCAATTCTGTGTCCTCGGAGGACCACAGCCCAGTTGGGCCCCAGGCGAAACCC AGCCTGGAGCTTGCAGGCAGGACGACTGTTCAGCACGCAGACCGCCGAGGACAAGGAGGAACCCCTGCACTCGAT TATCAGCAGCACAGAGAGCGTGCAGGGTTCCACTTCCAAACATGAGTTCCAGGCCGAGACAAAGAAGCTTTTGGA ${\tt CATTGTTGCCCGGTCCCTGTACTCAGAAAAAGAGGTGTTTATACGGGAGCTGATCTCCAATGCCAGCGATGCCTT}$ GGAAAAACTGCGTCACAAACTGGTGTCTGACGGCCAAGCACTGCCAGAAATGGAGATTCACTTGCAGACCAATGC CGAGAAAGGCACCATCACCATCCAGGATACTGGTATCGGGATGACACAGGAAGAGCTGGTGTCCAACCTGGGGAC GATTGCCAGATCGGGGTCAAAGGCCTTCCTGGATGCTCTGCAGAACCAGGCTGAGGCCAGCAGCAAGATCATCGG CCAGTTTGGAGTGGGTTTCTACTCAGCTTTCATGGTGGCTGACAGAGTGGAGGTCTATTCCCGCTCGGCAGCCCC GGGGAGCCTGGGTTACCAGTGGCTTTCAGATGGTTCTGGAGTGTTTGAAATCGCCGAAGCTTCGGGAGTTAGAAC CGGGACAAAAATCATCATCCACCTGAAATCCGACTGCAAGGAGTTTTCCAGCGAGGCCCGGGTGCGAGATGTGGT AACGAAGTACAGCAACTTCGTCAGCTTCCCCTTGTACTTGAATGGAAGGCGGATGAACACCTTGCAGGCCATCTG GATGATGGACCCCAAGGATGTCGGTGAGTGGCAACATGAGGAGTTCTACCGCTACGTCGCGCAGGCTCACGACAA GCCCCGCTACACCCTGCACTATAAGACGGACGCACCGCTCAACATCCGCAGCATCTTCTACGTGCCCGACATGAA CAAGGCCACGGACATCCTGCCCAAGTGGCTGCGCTTCATCCGAGGTGTGGTGGACAGTGAGGACATTCCCCTGAA $\tt CCTCAGCCGGGAGCTGCTGCAGGAGGCGCACTCATCAGGAAACTCCGGGACGTTTTACAGCAGAGGCTGATCAACTCCAGGAGGCTGATCAACTCCGGGAGGCTGTTAGAGGAGGCTGATCAACTCAGGAAACTCCGGGACGTTTTAGAGGAGGCTGATCAACTCAGGAAACTCCGGGACGTTTTAGAGGAGGCTGATCAACTCAGGAAACTCCGGGACGTTTTAGAGGAGGCTGATCAACTCAGGAAACTCCGGGACGTTTTAGAGGAGGCTGATCAACTCAACTCAGGAAACTCCGGGACGTTTTAGAGGAGGCTGATCAACTCAACTCAGGAAACTCCGGGACGTTTTAGAGGAGGCTGATCAACTCAACTCAGGAAACTCCGGGACGTTTTAGAGGAGGCTGATCAACTCAACTCAGGAAACTCCGGGACGTTTTAGAGGAGGCTGATCAACTCAACTCAGGAAACTCCGGGACGTTTTAGAGGAGGCTGATCAACTCAACTCAGGAAACTCCGGGACGTTTTAGAGGAGGCTGATCAACTCAACTCAGGAAACTCCGGGAACTTTTAGAGGAAACTCCAGGAAACTCCAGGAAACTC$ ATTCTTCATTGACCAGAGTAAAAAAGATGCTGAGAAGTATGCAAAGTTTTTTGAAGATTACGGCCTGTTCATGCG GGAGGGCATTGTGACCGCCACCGAGCAGGAGGTCAAGGAGGACATAGCAAAGCTGCTGCGCTACGAGTCCTCGGC GCTGCCCTCCGGGCAGCTAACCAGCCTCTCAGAATACGCCAGCCGCATGCGGGCCGGCACCCGCAACATCTACTA CCTGTGCGCCCCCAACCGTCACCTGGCAGAGCACTCACCCTACTATGAGGCCATGAAGAAGAAGACACAGAGGT TCTCTTCTGCTTTGAGCAGTTTGATGAGCTCACCCTGCTGCACCTTCGTGAGTTTGACAAGAAGAAGCTGATCTC TGTGGAGACGGACATAGTCGTGGATCACTACAAGGAGGAGAAGTTTGAGGACAGGTCCCCAGCCGCCGAGTGCCT ATCAGAGAAGGAGACGGAGGAGCTCATGGCCTGGATGAGAAATGTGCTGGGGTCGCGTGTCACCAACGTGAAGGT GACCCTCCGACTGGACACCCACCCTGCCATGGTCACCGTGCTGGAGATGGGGGCTGCCCGCCACTTCCTGCGCAT GCAGCAGCTGGCCAAGACCCAGGAGGAGCGCGCACAGCTCCTGCAGCCCACGCTGGAGATCAACCCCAGGCACGC GCTCATCAAGAAGCTGAATCAGCTGCGCGCAAGCGAGCCTGGCCTGGCTCAGCTGCTGGATCAGATATACGA GAACGCCATGATTGCTGCTGGACTTGTTGACGACCCTAGGGCCATGGTGGGCCGCTTGAATGAGCTGCTTGTCAA

MARELRALLLWGRRLRPLLRAPALAAVPGGKPILCPRRTTAQLGPRRNPAWSLQAGRLFSTQTAEDKEEPLHSII SSTESVQGSTSKHEFQAETKKLLDIVARSLYSEKEVFIRELISNASDALEKLRHKLVSDGQALPEMEIHLQTNAE KGTITIQDTGIGMTQEELVSNLGTIARSGSKAFLDALQNQAEASSKIIGQFGVGFYSAFMVADRVEVYSRSAAPG SLGYQWLSDGSGVFEIAEASGVRTGTKIIIHLKSDCKEFSSEARVRDVVTKYSNFVSFPLYLNGRRMNTLQAIWM MDPKDVGEWQHEEFYRYVAQAHDKPRYTLHYKTDAPLNIRSIFYVPDMKPSMFDVSRELGSSVALYSRKVLIQTK ATDILPKWLRFIRGVVDSEDIPLNLSRELLQESALIRKLRDVLQQRLIKFFIDQSKKDAEKYAKFFEDYGLFMRE GIVTATEQEVKEDIAKLLRYESSALPSGQLTSLSEYASRMRAGTRNIYYLCAPNRHLAEHSPYYEAMKKKDTEVL FCFEQFDELTLLHLREFDKKKLISVETDIVVDHYKEEKFEDRSPAAECLSEKETEELMAWMRNVLGSRVTNVKVT LRLDTHPAMVTVLEMGAARHFLRMQQLAKTQEERAQLLQPTLEINPRHALIKKLNQLRASEPGLAQLLVDQIYEN AMIAAGLVDDPRAMVGRLNELLVKALERH

CGGA<u>ATC</u>GAGGAGGTGCCTCACGACTGTCCAGGGGCCGACAGCGCCCAGGCGGCAGAGGGGCTTCATGTCAGGG ATGCCCCAACCAGCGGCTGTGCGCTTCTGGAGCGGGGCCCACTCCGGACACGGCTATAGAGGAAATCAAAGAGAA AATGAAGACTGTAAAACACAAAATCTTGGTATTGTCTGGGAAAGGCGGTGTTGGGAAAAGCACATTCAGCGCCCA $\verb|CCTTGCCCATGGCCTAGCAGAGGATGAAAACACACAGATTGCTCTTCTAGACATCGATATATGTGGGCCATCGAT|\\$ TCCCAAGATAATGGGATTGGAAGGAGAGCAGGTTCACCAGAGTGGCTCAGGCTGGTCTCCAGTGTACGTGGAAGA ${\tt CAACCTGGGGGTGATGTCAGTGGGGTCCTGATGATGCTGTTATCTGGAGGGGACCCAAGAA}$ AAACGGCATGATCAAGCAGTTCCTCCGAGATGTGGACTGGGGAGAGGTCGACTACCTCATTGTGGACACCCCACC $\tt TGGGACGTCGGATGAACACCTCTCGGTCGTCCGGTACCTGGCCACACCACCACCATCGATGGAGCAGTGATCATCAC$ CGGGGGCGCGGAGCTCATGTGCCAGGACTTGGAGGTCCCTCTCCTCGGCAGAGTGCCCCTGGATCCGCTCATAGG TAAGAATTGTGACAAAGGCCAGTCTTTTTTCATTGACGCCCCAGATTCCCCAGCCACGTTAGCCTACAGAAGTAT $\tt AATTCAGAGAATCCAAGAGTTTTGTAATCTCCATCAGTCAAAAGAAGAAGAACCTCATCAGTTCC\underline{\textbf{\textit{TGA}}} \texttt{AACGAGAG}$ GATGGGGTGGGTCACAGCAAAAGGACCAGATGCTGGTGTGGTCCGAAGCCACTTTCTCAGAGACACTTTAATCAT ${\tt TGAGTATTTGTACACTTTTCTTTAGAACATATATAAAGGGCATTCTCTACAAATGTGCCGTTTTAAGAATAAAAC}$ CCCCTCAAATCTC

MEEVPHDCPGADSAQAGRGASCQGCPNQRLCASGAGATPDTAIEEIKEKMKTVKHKILVLSGKGGVGKSTFSAHL
AHGLAEDENTQIALLDIDICGPSIPKIMGLEGEQVHQSGSGWSPVYVEDNLGVMSVGFLLSSPDDAVIWRGPKKN
GMIKQFLRDVDWGEVDYLIVDTPPGTSDEHLSVVRYLATAHIDGAVIITTPQELSLQDVRKEINFCRKVKLPIIG
VVENMSPFICPKCKKESQIFPPTTGGAELMCQDLEVPLLGRVPLDPLIGKNCDKGQSFFIDAPDSPATLAYRSII
QRIQEFCNLHQSKEENLISS

 $\tt CGGTCCTTCTCAACAGGCCTGTGCCCCGCGGGGTCCGCCTCCTCTGGGACGCCTTCCTCCCGGCACAGAAGGCCT$ $\verb|CCCGACGAGCAGTGTTGACAGTGAACCCCACGTAGACGCGGCCCCGGTACCGGGGGTTCAGGCAGTAGAGCAGGT| \\$ AGACGCCGAAAAAGCGCCCTGGCCTCGCCGCGACCCCCGCGGGACCCATCGGGCCTTGGGGTTCGGGAACCACAG GCGGGTGTAGAAGTCCGACCGCGGAAGCCAGACTGCTGTCCAGTCGGCGAGCGCGTACCATTCAGCATCGGCTCC GCCCGAGTCCCACCTTCCTCAGGCTCTGATTGGCTGACACATGGCAAGCGCGAAAAGCCTGGACCGCTGGAAAGC CCGGCTGCTTGAGGGCGGAAGTACTGCGTTGACGTACGCCTTAGTAAGGGCGGAAGTGAGTTTTCCAGCGGAAGT GGCTCCTGTAAGGCAGCAAGGTAGCGTGGCCGGCGCCCGAGCTGGGGTTGTGTCCCTGCTGGGCTGCCGTTCCAG $\tt CTGGACTGCCGCC{\color{blue} {\bf ATG}} GAACTCAGCGCCGAATACCTCCGCGAGAAGCTGCAGCGGGACCTGGAGGCGGAGCATGT$ GGAGGTGGAGGACACGACCCTCAACCGTTGCTCCTGTAGCTTCCGAGTCCTGGTGGTGTCGGCCAAGTTCGAGGG GAAACCGCTGCTTCAGAGACACAGGCTGGTGAACGCGTGCCTAGCAGAAGAGCTCCCGCACATCCATGCCTTTGA ${\tt ACAGAAAACCCTGACCCCAGACCAGTGGGCACGTGAGCGACAGAAA} \underline{{\tt TGA}}{\tt GGGACTGGGATCTGCACAGCCATTAA}$ CTCCCTGCCTGCCTCCGTCCATTGTTTTA

 ${\tt MELSAEYLREKLQRDLEAEHVEVEDTTLNRCSCSFRVLVVSAKFEGKPLLQRHRLVNACLAEELPHIHAFEQKTL}\\ {\tt TPDQWARERQK}$

GGTAACTTCTTGATGTTGCCGTGGCATTTGTAAACTGTCATGGTGCTGGTAGGAGTGTAGCAGGGAGGATGATGG GAGGTCAGTCTTGTCTCTATTTTGGTTTTGGTGGGTTTTTGGCCAGCTCCTTCACTGCAACCTGTTTTATCAGCAA GGTCTTTATGACTGGTATTTTGTGCTGACCTTCTATGTCATCCTGTGACTTAGAATGCCTTAACCATCAGGGAAT GCAGCCCAGTAGTTTCAGCCTCATTTTTCCTGGCTCCTATTTAAGATGGAGTTGCTCTGGTTCACACACCTCTGA CATGATCATTGCCCACTGCGGCTTCCACCTCCCGGGTTCAAGAGATCCTCCTGCCTCACCCTCCCAAGGTGCTGG GGCTGGTCTCAAACTCCTGGGCTCAAGCAATCCTTCTGTCTCAGCCTCCCAAAGTACTGGGATTACAGGCATGTC CCACCATGCCCAGACTAATATTTACTTTTAATCAGACTAAGATAGGGTTACTACTTGAGTTGCTATGGCTCCAGC TGAAAGAAAGCCCGTGCAGTCATATCACGCGTAAACATTTGCTTTATGCTAAAAATATGGTGGACCTGGCATTAC AGCTATTACAAATCTCCTAAGATGTCTCGGGTAGTGTATTAGTTACTTTTCATACTGCTATGAAGAAATACTGGA AACTGGGTAATTTATAAAGAAAAAGAGGTTTAATGTACTCACAGTTCCACAAGGCTGGAGAGGCCTCAGAATCAT TATAAAACCATCAGATTTAGTGAGATGTATTCACTATCACGAGAACAGTATGGGAAAAACCTGCCCCCATGATTC GATTACCTCCTACCGGGTCCCTCCCACGACACATGGGGATTATGGGAACTACAATTCAAGATGAAATTTGGGTGG GGACGCAGCCAAACCATATCGGGTAGCAACAACCTAGGGTCAGTTTTGCAGGTGGTAAAGCCATTTACCAAGATA GTTGTAGGTAAAGAAGGGCAGATTTATTAGAGAAATTGTGAAAATATGTTGCAGTGGGCAGCTCAGCAGAGAAGG GGCTACCTGCAAAGAGGCAAGGGCTGGAGGAAAGTTTTATAGGGTCCTGCTGAAGGGTGCTACGTGTGGAATGAG GTCATTGTGCCCGCAGGTTGTTTGTGATTAGCTGTTTCTAACAATTGTTCATACAATAATTGTTCATTATTGTTC GGAAACTTCATTCATATCTTCAACACAAATTGTAGGTAGCCTGTTTTTTAAAACATTTATTCAACAAATAT TTAGTCCAAGCCACTATTACTTATTACCTTCTCTACTATTGTATGGACTTTTAACTATCTCTGACACTATTCACT ATTCTTCCACATTCTCTATTATTTATACCTATGGTAAAATTTGCCAGTTTGACCATACAACTAATACTCACAGGG AATATATAGAGTCTAGAAGAAAATATACAGGTCCTTAAAGGCTGCCCTGCCAACAAAACCATAACGCAGGAACAA ACATCACAACTATGCCAAATAATCAATCCTACAATGTCCAAAATTTTACTTTAAAACTGGAATTTCCAGACTTCC TATTTATTTATTTATTTGAGACAGAGTTTCGCTCTTGTTGCAGTGAGCCAGGATCATGCCATTGCACTCCA

ATCTTGCTTTCCTTTAATCCGGCAGTGACCGTGTGTCAGAACAATCTTGAATCATGAAGCTACTAACCAGAGCCG GCTCTTTCTCGAGATTTTATTCCCTCAAAGTTGCCCCCAAAGTTAAAGCCACAGCTGCGCCTGCAGGAGCACCGC CACAACCTCAGGACCTTGAGTTTACCAAGTTACCAAATGGCTTGGTGATTGCTTCTTTGGAAAACTATTCTCCTG TATCAAGAATTGGTTTGTTCATTAAAGCAGGCAGTAGATATGAGGACTTCAGCAATTTAGGAACCACCCATTTGC TGCGTCTTACATCCAGTCTGACGACAAAAGGAGCTTCATCTTTCAAGATAACCCGTGGAATTGAAGCAGTTGGTG GCAAATTAAGTGTGACCGCAACAAGGGAAAACATGGCTTATACTGTGGAATGCCTGCGGGGTGATGTTGATATTC TAATGGAGTTCCTGCTCAATGTCACCACAGCACCAGAATTTCGTCGTTGGGAAGTAGCTGACCTTCAGCCTCAGC AGAATGCCTTGGCTAATCCCTTGTATTGTCCTGACTATAGGATTGGAAAAGTGACATCAGAGGAGTTACATTACT TCGTTCAGAACCATTTCACAAGTGCAAGAATGGCTTTGATTGGACTTGGTGTGAGTCATCCTGTTCTAAAGCAAG TTGCTGAACAGTTTCTCAACATGAGGGGTGGGCTTGGTTTATCTGGTGCAAAGGCCAACTACCGTGGAGGTGAAA TCCGAGAACAGAATGGAGACAGTCTTGTCCATGCTGCTTTTGTAGCAGAAAGTGCTGTCGCGGGAAGTGCAGAGG CAAATGCATTTAGTGTTCTTCAGCATGTCCTCGGTGCTGGGCCACATGTCAAGAGGGGCAGCAACACCACCAGCC ATCTGCACCAGGCTGTTGCCAAGGCAACTCAGCAGCCATTTGATGTTTCTGCATTTAATGCCAGTTACTCAGATT CTGGACTCTTTGGGATTTATACTATCTCCCAGGCCACAGCTGCTGGAGATGTTATCAAGGCTGCCTATAATCAAG TAAAAAGAATAGCTCAAGGAAACCTTTCCAACACAGATGTCCAAGCTGCCAAGAACAAGCTGAAAGCTGGATACC TAATGTCAGTGGAGTCTTCTGAGTGTTTCCTGGAAGAAGTCGGGTCCCAGGCTCTAGTTGCTGGTTCTTACATGC $\tt CTGGCCAGAAGTCAATGGCAGCAAGTGGAAATTTGGGACATACACCTTTTGTTGATGAGTTG{\color{red}{\textbf{TAA}}}{TACTGATGCA}$ ${\tt CACATTACAGGAGAGAGCTGAACGTTCTCTCACCCAGAGCAGCAAACACATGAAAGTCAGAAGTCTCTAATATAT}$ CATTTGTCTTTTTTCCAGTGAGGTAAAATAAGGCATAAATGCAGGTAATTATTCCCAGCTGACCTAAAGTCAATA AAACATTCTGTTT

MKLLTRAGSFSRFYSLKVAPKVKATAAPAGAPPQPQDLEFTKLPNGLVIASLENYSPVSRIGLFIKAGSRYEDFS
NLGTTHLIRLTSSLTTKGASSFKITRGIEAVGGKLSVTATRENMAYTVECLRGDVDILMEFLLNVTTAPEFRRWE
VADLQPQLKIDKAVAFQNPQTHVIENLHAAAYQNALANPLYCPDYRIGKVTSEELHYFVQNHFTSARMALIGLGV
SHPVLKQVAEQFLNMRGGLGLSGAKANYRGGEIREQNGDSLVHAAFVAESAVAGSAEANAFSVLQHVLGAGPHVK
RGSNTTSHLHQAVAKATQQPFDVSAFNASYSDSGLFGIYTISQATAAGDVIKAAYNQVKRIAQGNLSNTDVQAAK
NKLKAGYLMSVESSECFLEEVGSQALVAGSYMPPSTVLQQIDSVANADIINAAKKFVSGQKSMAASGNLGHTPFV
DEL

AGTCCTCTTCCGGGTGATGGCGGGGGGGCCCCGGATGTAGCCCTGGCGCAAGCATCTCTTTTTTTCCACCTC ${\tt GCCTTCCGCGGATTCCCAGCTTGAGAAACACCTCTTTGCCCCGTCAT{\tt GCCAAAGAGGAAAGTGACCTTCCAAGGC}}$ $\tt GTGGGAGATGAGGATGAGATGAAATCATTGTCCCCAAGAAGAAGCTGGTGGACCCTGTGGCTGGGTCAGGG$ GGTCCTGGGAGCCGCTTTAAAGGCAAACACTCTTTGGATAGCGATGAGGAGGAGGATGATGATGATGGGGGGGTCC AGCAAATATGACATCTTGGCCTCAGAGGATGTAGAAGGTCAGGAGGCAGCCACACTCCCCAGCGAGGGGGGTGTT CGGATCACCCTTTAACCTGCAGGAGGAGGAGGGGGAGGCCACTTTGATGCCGATGGCAACTACTTCCTGAAC $\tt CGGGATGCTCAGATCCGAGACAGCTGGCTGGACAACATTGACTGGGTGAAGATCCGGGAGCGGCCACCTGGCCAG$ $\tt CGCCAGGCCTCAGACTCGGAGGAGGAGGACAGCTTGGGCCAGACCTCAATGAGTGCCCAAGCCCTCTTGGAGGGA$ CTTTTGGAGCTCCTATTGCCTAGAGAGACAGTGGCTGGGGGCACTGAGGCGTCTGGGGGCCCGAGGAGGAGGCAAA ${\tt GGGAGAAAGGGGCCTGGGCAACCCAGTTCCCCTCAGCGCCTGGACCGGCTCTCCGGGTTGGCCGACCAGATGGTG}$ GCCCGGGGCAACCTTGGTGTGTACCAGGAAACAAGGGAACGGTTGGCTATGCGTCTGAAGGGTTTGGGGTGTCAG ACCCTAGGACCCCACAATCCCACACCCCCACCCTCCCTGGACATGTTCGCTGAGGAGTTGGCGGAGGAGGAACTG GAGACCCCAACCCCTACCCAGAGAGGAGAAGCAGAGTCGCGGGGAGATGGTCTGGTGGATGTGTGGGAATAT GGCTACTTCCCGGACGGTGTTTATTGCCGGAAGCTGGACCCCCCTGGTGGTCAGTTCTACAACTCCAAACGCATT $\texttt{GACTTTGACCTCTACACC} \underline{\textbf{TGA}} \texttt{GCCTGCTGGGGGCCCAGTTTGGTGGGCCCTTCTTTCCTGGACTTTGTGGAGGAG}$ GCACCAAGTGTCTCAGGCAGCGAGGAAATTGGAGGCCATTTTTCAGTCAATTTCCCTTTCCCAATAAAAGCCTTT AGTTGTGTAAAAAAAAAAAAAAAA

MPKRKVTFQGVGDEEDEDEIIVPKKKLVDPVAGSGGPGSRFKGKHSLDSDEEEDDDDGGSSKYDILASEDVEGQE
AATLPSEGGVRITPFNLQEEMEEGHFDADGNYFLNRDAQIRDSWLDNIDWVKIRERPPGQRQASDSEEEDSLGQT
SMSAQALLEGLLELLLPRETVAGALRRLGARGGGKGRKGPGQPSSPQRLDRLSGLADQMVARGNLGVYQETRERL
AMRLKGLGCQTLGPHNPTPPPSLDMFAEELAEEELETPTPTQRGEAESRGDGLVDVMWEYKWENTGDAELYGPFT
SAQMQTWVSEGYFPDGVYCRKLDPPGGQFYNSKRIDFDLYT

AAACAGGCCATTGTTGCTGAGCGAGGATGAAGAAGATACCAAGAGAGTTGTCCGCAGTGCCAAGGACAAGAGGTT TGAGGAGCTGACCAACCTTATCCGGACCATCCGTAATGCCATGAAGATTCGTGATGTCACCAAGTGCCTGGAAGA GTTTGAGCTCCTGGGAAAAGCATATGGGAAGGCCAAAAGCATTGTGGACAAAGAAGGTGTCCCCCGGTTCTATAT GAACAATGCCAAGGCTCTGAGCACCTTGCGTCAGAAGATCCGAAAATACAACCGTGATTTCGAGTCCCATATCAC AAGCTACAAGCAGAACCCCGAGCAGTCTGCGGATGAAGATGCTGAGAAAAATGAGGAGGATTCAGAAGGCTCTTC AGATGAGGATGAGGATGAGGACGGAGTCAGTGCTGCAACTTTCTTGAAGAAGAAATCAGAAGCTCCTTCTGGGGA GAGTCGCAAGTTCCTCAAAAAGATGGATGATGAAGATGAGGACTCAGAAGATTCCGAAGATGATGAAGACTGGGA TAAAAAGGCACCCACCACAGATGAGGACAAGAAGGCAGCCGAGAAGAAACGGGAGGACAAAGCTAAGAAGAAGCA CGACAGGAAATCCAAGCGCCTGGATGAGGAGGAGGAGGACAATGAAGGCGGGGGAGTGGGAAAGGGTCCGGGGCGG AGTGCCGTTGGTTAAGGAGAAGCCAAAAATGTTTGCCAAGGGAACTGAGATCACCCATGCTGTTATCAAGAA ACTGAATGAGATCCTACAGGCACGAGGCAAGAAGGGAACTGATCGTGCTGCCAGATTGAGCTGCTACTGCT GGTTCAGATTGCAGCGGAAAACAACCTGGGAGAGGGCGTCATTGTCAAGATCAAGTTCAATATCATCGCCTCTCT CTATGACTACAACCCCAACCTGGCAACCTACATGAAGCCAGAGATGTGGGGGGAAGTGCCTGGACTGCATCAATGA CAACGCTGACCAGCCACTGCGTGTCCGTGGCTGCATCCTAACTCTGGTGGAACGAATGGATGAAGAATTTACCAA AATAATGCAAAATACTGACCCTCACTCCCAAGAGTACGTGGAGCACTTGAAGGATGAGGCCCAGGTGTGTGCCAT CATCGAGCGTGTGCAGCGCTACCTGGAGGAGAAGGGCACTACCGAGGAGGTCTGCCGCATCTACCTGCTGCGCAT $\verb|CCTGCACCACCTACTACAAGTTTGATTACAAGGCCCATCAGCGACAGCTGACCCCGCCTGAGGGCTCCTCAAAGGT|\\$ GAGCAAGACCAGGCAGAAAATGAGGGCGAGGACTCGGCTGTTTGATGGAGAGACTGTGCAAGTACATCTACGCC ${\tt AAGGACCGCACAGACCGGATCCGCACATGTGCCATCTTGCCACATCTACCACCATGC}$

GGCCCTGCGGTGTGACTCGCGGGCTCAGCTGGTTGGTATTTTTTGGGCCTCGTGCTTCGTGGTGGGAGACCCAGG TCGAGGTCCGGCCGTAGCACCTCCGCGCCGTCGCCATGTCGCGGTTTTTCACCACCGGTTCGGACAGCGAGTCCG AGTCGTCCTTGTCCGGGGAGGAGCTCGTCACCAAACCTGTCGGAGGCAACTATGGCAAACAGCCATTGTTGCTGA GCGAGGATGAAGAAGATACCAAGAGAGTTGTCCGCAGTGCCAAGGACAAGAGGTTTGAGGAGCTGACCAACCTTA TCCGGACCATCCGTAATGCCATGAAGATTCGTGATGTCACCAAGTGCCTGGAAGAGTTTGAGCTCCTGGGAAAAG CATATGGGAAGGCCAAAAGCATTGTGGACAAAGAAGGTGTCCCCCGGTTCTATATCCGCATCCTGGCTGACCTAG ${\tt AGGACTATCTTAATGAGCTTTGGGAAGATAAGGAAGGGGAAGAAGAAGAAGAAGAACAATGCCAAGGCTCTGA}$ GCACCTTGCGTCAGAAGATCCGAAAATACAACCGTGATTTCGAGTCCCATATCACAAGCTACAAGCAGAACCCCG AGCAGTCTGCGGATGAAGATGCTGAGAAAAATGAGGAGGATTCAGAAGGCTCTTCAGATGAGGATGAGGATGAGG ACGGAGTCAGTGCTGCAACTTTCTTGAAGAAGAAATCAGAAGCTCCTTCTGGGGAGAGTCGCAAGTTCCTCAAAA AGATGGATGATGAAGATGAGGACTCAGAAGATTCCGAAGATGATGAAGACTGGGACACAGGTTCCACATCTTCCG ATGAGGACAAGAAGCCAGCCGAGAAGAAACGGGAGGACAAAGCTAAGAAGCACGACAGGAAATCCAAGCGCC AGCCAAAAATGTTTGCCAAGGGAACTGAGATCACCCATGCTGTTGTTATCAAGAAACTGAATGAGATCCTACAGG CACGAGGCAAGAAGGGAACTGATCGTGCTGCCCAGATTGAGCTGCTGCAACTGCTGGTTCAGATTGCAGCGGAAA TGGCAACCTACATGAAGCCAGAGATGTGGGGGAAGTGCCTGGACTGCATCAATGAGCTGATGGATATCCTGTTTG CAAATCCCAACATTTTTGTTGGAGAGAATATTCTGGAAGAGAGTGAGAACCTGCACAACGCTGACCAGCCACTGC GTGTCCGTGGCTGCATCCTAACTCTGGTGGAACGAATGGATGAAGAATTTACCAAAATAATGCAAAATACTGACC CTCACTCCCAAGAGTACGTGGAGCACTTGAAGGATGAGGCCCAGGTGTGCCATCATCGAGCGTGTGCAGCGCT ACCTGGAGGAGAAGGGCACTACCGAGGAGGTCTGCCGCATCTACCTGCTGCGCATCCTGCACACCTACTACAAGT TTGATTACAAGGCCCATCAGCGACAGCTGACCCCGCCTGAGGGCTCCTCAAAGTCTGAGCAAGACCAGGCAGAAA ATGAGGGCGAGGACTCGGCTGTTGATGGAGAGACTGTGCAAGTACATCTACGCCAAGGACCGCACAGACCGGA TCCGCACATGTGCCATCTCTGCCACATCTACCACCATGCTCTGCACTCGCGCTGGTACCAGGCCCGCGACCTCA TGCTCATGAGCCACTTGCAGGACAACATTCAGCATGCAGACCCGCCAGTGCAGATCCTTTACAACCGCACCATGG TGCAGCTGGGCATCTGTGCCTTCCGCCAAGGCCTGACCAAGGACGCACAACGCCCTGCTGGACATCCAGTCGA GTGGCCGAGCCAAGGAGCTTCTGGGCCAGGGCCTGCTGCTGCGCAGCCTGCAGGAGCGCAACCAGGAGCAGGAGA AGGTGGAGCGGCGCCGTCAGGTCCCCTTCCACCTGCACATCAACCTGGAGCTGCTGGAGTGTGTCTACCTGGTGT TCCACCACCAGCTGCGCGTGGGCGAGCGACAGCCCCTGCTGGGTCCCCTGAGTCCATGCGGGAACATGTGGTCG CTGCCTCCAAGGCCATGAAGATGGGTGACTGGAAGACCTGTCACAGTTTTATCATCAATGAGAAGATGAATGGGA AAGTGTGGGACCTTTTCCCCGAGGCTGACAAAGTCCGCACCATGCTGGTTAGGAAGATCCAGGAAGAGTCACTGA GGACCTACCTCTCACCTACAGCAGTGTCTATGACTCCATCAGCATGGAGACGCTGTCAGACATGTTTGAGCTGG ATCTGCCCACTGTGCACTCCATCATCAGCAAAATGATCATTAATGAGGAGCTGATGGCCTCCCTGGACCAGCCAA CACAGACAGTGGTGATGCACCGCACTGAGCCCACTGCCCAGCAGAACCTGGCTCTGCAGCTGGCCGAGAAGCTGG GCAGCCTGGTGGAGAACAACGAACGGGTGTTTGACCACAAGCAGGGCACCTACGGGGGCTACTTCCGAGACCAGA AGGACGGCTACCGCAAAAACGAGGGCTACATGCGCCGCGGTGGCTACCGCCAGCAGCAGTCTCAGACGGCCTACT GAGCTCTCCACTCTGTTTCCCGCCTGGGCCATCCAACCTTGAAGTCCTAAACCACACCTCAGTCACTAAAGGTCT GAGCTGCTACCACATGACAGACACAAGGCTCAGATGAAGAGGTGAATTGAACACGTTCCTGACCTC

FIGURE 4427A

AGAGGAGCTTCTTAATAACTTTGCCCAGCAAATAGGAGCCTGGAGATTCTGCCTGTACTTTCTCTCCAGCACTAG GAATGACTATGTA**ATG**ATGTACAGTTTAACAGTTTTTGAGAATCTGATCAATAAAATGTGGCTTGGGGTCCCATC TCAGGATAAGATGGAAATCCGTAGCTGTCTGCCCAAACTCCTTTTGGCTCACCATAAAACCTTACCTTACTTTAT CCGGAACAAGCTCTGCAAAGTTATTGTTGATATTGGACGTCAGGATTGGCCCATGTTCTACCACGACTTTTTTAC TAACATTTTACAGTTGATCCAGTCCCCTGTGACAACCCCCCTTGGGCTGATCATGTTGAAGACAACTTCAGAAGA GCTGGCTTGTCCCCGTGAGGACCTCAGTGTGGCTCGGAAGGAGGAGTTGCGGAAGCTGCTACTGGACCAGGTGCA GACAGTGCTTGGGCTACTGACAGGTATCTTGGAGACTGTCTGGGACAAACACAGTGTTACTGCTGCCACTCCACC ACCATCCCCGACCTCAGGAGAAAGTGGTGACTTACTGAGTAACCTGTTGCAGAGTCCCAGTTCAGCCAAACTGTT GAATCAGCCAATTCCCATCCTTGATGTGGAGAGTGAGTATATCTGTTCCCTGGCTTTGGAGTGCCTGGCCCATCT CTTCAGTTGGATTCCTCTGTCTGCCAGCATCACCCCATCCCTCCTTACCACCATCTTCCACTTTGCACGATTTGG CTGTGACATCCGGGCCAGAAAGATGGCGTCAGTTAACGGCAGCCAGAACTGTGTCTCGGGTCAGGAGCGCGG CCGGCTGGGGGTCCTGGCCATGTCCTGCATCAATGAACTCATGTCCAAGAACTGTGTGCCTATGGAATTTGAGGA GTATTTACTGCGTATGTTCCAGCAGACTTTCTACCTCCTGCAGAAAATCACCAAGGATAACAATGCCCACACAGT GAAGAGCAGGCTAGAAGAGCTCGATGAGAGCTATATCGAGAAGTTTACTGACTTTCTTCGGCTCTTTGTGAGTGT TCACCTAAGAAGAATCGAGTCTTACTCCCAGTTCCCTGTGGTGGAGTTTTTGACACTTTTGTTCAAGTACACATT TCATCAGCCTACTCATGAAGGTTACTTCTCTTGTTTGGATATCTGGACGCTGTTTTTGGACTATCTGACAAGTAA AATTAAAAGTCGTCTTGGAGACAAGGAAGCAGTTCTCAACAGGTACGAAGATGCCCTGGTGCTCCTGCTCACAGA GGTGTTGAATCGAATCCAGTTCAGATACAACCAAGCCCAGCTGGAGGAGTTGGATGATGAGACTCTGGATGACGA TCAGCAGACGGAGTGGCAGCGGTACTTACGGCAGAGCTTGGAGGTGGTGGCCAAAGTGATGGAGCTCCTGCCCAC GCACGCCTTCTCCACACTGTTCCCTGTTCTTCAGGACAATTTAGAAGTTTATTTGGGATTACAACAGTTTATAGT CACTTCAGGGTCAGGACACAGGTTGAACATCACGGCGGAGAACGACTGCCGGCGGCTGCACTGCTCCCTGAGAGA CTTGAGCTCCCTGCTGCAGGCCGTGGGCCGCCTGGCCGAGTACTTTATCGGGGATGTGTTTGCTGCACGGTTCAA TGATGCCCTCACAGTCGTGGAAAGGTTGGTCAAAGTCACTCTGTACGGATCTCAGATAAAATTGTACAACATTGA AACTGCTGTGCCATCAGTATTGAAACCTGACCTCATTGATGTGCATGCTCAGTCCCTGGCTGCGCTGCAGGCTTA CTCTCACTGGTTAGCACAGTATTGCAGTGAAGTTCACCGGCAGAACACGCAGCAGTTCGTGACACTCATCTCTAC TACCATGGATGCAATCACACCTCTAATCAGCACCAAGGTCCAAGACAAGCTGCTGCTATCTGCGTGCCACTTACT GGTCTCACTGGCCACCACCGTGCGGCCCGTCTTTCTGATCAGCATCCCTGCAGTGCAGAAAGTATTCAACAGAAT CACTGATGCCTCTGCCCTGCGACTTGTCGATAAGGCCCAGGTGTTGGTGTGCCGAGCCCTCTCTAACATCTTGCT GCTTCCGTGGCCAAACCTTCCAGAGAATGAGCAGCAGTGGCCCGTGCGCTCCATCAACCACGCCAGCCTCATCTC TGCACTCTCCCGGGACTATCGCAACCTGAAGCCCAGTGCTGTTGCCCCACAGAGAAAGATGCCACTGGATGACAC CAAACTGATTATCCACCAGACACTCAGCGTCTTAGAAGATATTGTGGAGAATATCTCGGGGGGAGTCCACCAAGTC TCGACAGATTTGCTACCAGTCGCTGCAGGAATCTGTTCAGGTCTCCCTGGCCCTCTTTCCAGCTTTTATCCATCA GTCAGATGTGACTGATGAGATGCTGAGCTTCTTCCTCACTCTGTTTCGAGGCCTTAGAGTACAGATGGGTGTGCC TTTCACTGAGCAAATCATACAGACTTTCCTCAACATGTTTACCAGAGAGCAGTTAGCCGAGAGCATCCTCCACGA GGGCAGCACAGGCTGCCGGGTGGTGGAGAAGTTTCTGAAGATCCTGCAGGTGGTGGTCCAGGAGCCAGGCCAGGT GTTCAAGCCCTTCCTCCCCAGCATCATCGCCCTGTGCATGGAGCAAGTGTATCCCATCATTGCCGAGCGTCCCTC CCCTGATGTGAAGGCCGAGCTGTTTGAGCTCCTTTTCCGGACGCTCCATCACAACTGGAGGTACTTCTTCAAGTC CACCGTGCTGGCCAGTGTCCAGAGGGGGATCGCTGAGGAGCAGATGGAGAATGAGCCCCAGTTCAGTGCCATCAT GCAGGCTTTCGGACAGTCCTTTCTCCAGCCCGACATCCACCTTTTTAAACAAAATCTCTTCTACTTGGAGACTCT CAACACCAAGCAGAAGCTGTACCACAAGAAGATCTTCCGGACTGCCATGCTGTTCCAGTTTGTGAACGTGCTGCT CCAGGTCCTGGTCCACAAGTCCCATGATCTTCTGCAGGAGGAGATTGGCATCGCCATCTACAACATGGCCTCAGT CGACTTTGATGGCTTCTTTGCCGCCTTCCTCCCAGAGTTCCTGACCAGCTGTGATGGTGTGGATGCCAACCAGAA AAGTGTGCTGGGGCGGAATTTCAAGATGGATCGGGACCTGCCCTCATTCACCCAGAATGTGCACAGGCTGGTCAA $\tt CGACCTGCGCTACTACAGACTCTGCAACGACAGCCTGCCCCCTGGCACTGTGAAGCTC\underline{TAG}{GCCTGCTACTGCCT}$ GGGGACACGGACTTCTGCTGCTGCCACCTGCGCCAGCCCTACCTTCCACCACAGATGTCTCCCAGATGGGCCTTG AGCAGAGCTGGCTTCTGGGTCCACCTGAGCACTGGACGGTGCTCCCAGGGCGTTGGAGCAGGCGGAGGGGTGTGT GGCCAGGTACTAGGAGGCACCAGGAAATCCCGCGGGGTGGCCCATGCAGACCAGGCGCACGTGGCTCATGGGGCA

4802/6881 FIGURE 4427B

GAATTGCCAAGGACAGCTCACGACAGTGCCACCTTCTCACCATTCCAGCCAAGGAGAGATGTGACGTTGGAACTG CTCTGGCACTTCTGTCAAGCCTCCCCCGCCCCAATTGCCTTGAGATCTCTGCTCTTTGTCAGAGATTTGCAAAGA CTCACGTTTTTGTTGTTTTCTCATCATTCCATTGTGATACTAAGAAACTAAGAAGCTTAATGAAAAGAAATAAAA TGCCTATGTTGTTGTTCTAG

MMYSLTVFENLINKMWLGVPSQDKMEIRSCLPKLLLAHHKTLPYFIRNKLCKVIVDIGRQDWPMFYHDFFTNILQ
LIQSPVTTPLGLIMLKTTSEELACPREDLSVARKEELRKLLLDQVQTVLGLLTGILETVWDKHSVTAATPPPSPT
SGESGDLLSNLLQSPSSAKLLNQPIPILDVESEYICSLALECLAHLFSWIPLSASITPSLLTTIFHFARFGCDIR
ARKMASVNGSSQNCVSGQERGRLGVLAMSCINELMSKNCVPMEFEEYLLRMFQQTFYLLQKITKDNNAHTVKSRL
EELDESYIEKFTDFLRLFVSVHLRRIESYSQFPVVEFLTLLFKYTFHQPTHEGYFSCLDIWTLFLDYLTSKIKSR
LGDKEAVLNRYEDALVLLLTEVLNRIQFRYNQAQLEELDDETLDDDQQTEWQRYLRQSLEVVAKVMELLPTHAFS
TLFPVLQDNLEVYLGLQQFIVTSGSGHRLNITAENDCRRLHCSLRDLSSLLQAVGRLAEYFIGDVFAARFNDALT
VVERLVKVTLYGSQIKLYNIETAVPSVLKPDLIDVHAQSLAALQAYSHWLAQYCSEVHRQNTQQFVTLISTTMDA
ITPLISTKVQDKLLLSACHLLVSLATTVRPVFLISIPAVQKVFNRITDASALRLVDKAQVLVCRALSNILLLPWP
NLPENEQQWPVRSINHASLISALSRDYRNLKPSAVAPQRKMPLDDTKLIIHQTLSVLEDIVENISGESTKSRQIC
YQSLQESVQVSLALFPAFIHQSDVTDEMLSFFLTLFRGLRVQMGVPFTEQIIQTFLNMFTREQLAESILHEGSTG
CRVVEKFLKILQVVVQEPGQVFKPFLPSIIALCMEQVYPIIAERPSPDVKAELFELLFRTLHHNWRYFFKSTVLA
SVQRGIAEEQMENEPQFSAIMQAFGQSFLQPDIHLFKQNLFYLETLNTKQKLYHKKIFRTAMLFQFVNVLLQVLV
HKSHDLLQEEIGIAIYNMASVDFDGFFAAFLPEFLTSCDGVDANQKSVLGRNFKMDRDLPSFTQNVHRLVNDLRY

TCTCTCTCGGCGTTTCCGCTGTCAGGGCCTGCGGTGTGACTCGCGGGCTCAGCTGGTCCGGCCGTAGCACCTCCG CGCCGTCGCCATGTCGCGGTTTTTCACCACCGGTTCGGACAGCGAGTCCGAGTCGTCCTTGTCCGGGGAGGAGCT CGTCACCAAACCTGTCGGAGGCAACTATGGCAAACAGCCATTGTTGCTGAGCGAGGATGAAGAAGATACCAAGAG AGTTGTCCGCAGTGCCAAGGACAAGAGGTTTGAGGAGCTGACCAACCTTATCCGGACCATCCGTAATGCCATGAA GATTCGTGATGTCACCAAGTGCCTGGAAGAGTTTGAGCTCCTGGGAAAAGCATATGGGAAGGCCAAAAGCATTGT GGACAAAGAAGGTGTCCCCCGGTTCTATATCCGCATCCTGGCTGACCTAGAGGACTATCTTAATGAGCTTTGGGA AGATAAGGAAGGGAAGAAGAAGAACAAGAACAATGCCAAGGCTCTGAGCACCTTGCGTCAGAAGATCCGAAA ATACAACCGTGATTTCGAGTCCCATATCACAAGCTACAAGCAGAACCCCGAGCAGTCTGCGGATGAAGATGCTGA GAAAAATGAGGAGGATTCAGAAGGCTCTTCAGATGAGGATGAGGATGAGGACGGAGTCAGTGCTGCAACTTTCTT AGAAGATTCCGAAGATGATGAAGACTGGGACACAGGTTCCACATCTTCCGATTCCGACTCAGAGGAGGAAGAAGG GAAACGGGAGGACAAAGCTAAGAAGAAGCACGACAGGAAATCCAAGCGCCTGGATGAGGAGGAGGAGGACAATGA AGGCGGGGAGTGGGAAAGGGTCCGGGGGGGGGGGGTGCCGTTGGTTAAGGAGAAGCCAAAAATGTTTGCCAAGGGAAC TGAGATCACCCATGCTGTTGTTATCAAGAAACTGAATGAGATCCTACAGGCACGAGGCAAGAAGGGAACTGATCG TGCTGCCCAGATTGAGCTGCTGCAACTGCTGGTTCAGATTGCAGCGGAAAACAACCTGGGAGAGGGCGTCATTGT CAAGATCAAGTTCAATATCATCGCCTCTCTATGACTACAACCCCAACCTGGCAACCTACATGAAGCCAGAGAT GTGGGGGAAGTGCCTGGACTGCATCAATGAGCTGATGGATATCCTGTTTGCAAATCCCAACATTTTTGTTGGAGA GAATATTCTGGAAGAGTGAGAACCTGCACAACGCTGACCAGCCACTGCGTGTCCGTGGCTGCATCCTAACTCT GGTGGAACGAATGGATGAAGAATTACCAAAATAATGCAAAATACTGACCCTCACTCCCAAGAGTACGTGGAGCA CTTGAAGGATGAGGCCCAGGTGTGCCATCATCGAGCGTGTGCAGCGCTACCTGGAGGAGAAGGGCACTACCGA GGAGGTCTGCCGCATCTACCTGCTGCGCATCCTGCACCCTACTACAAGTTTGATTACAAGGCCCATCAGCGACA GCTGACCCCGCCTGAGGGCTCCTCAAAGTCTGAGCAAGACCAGGCAGAAAATGAGGGCGAGGACTCGGCTGTGTT GATGGAGAGCTGTGCAAGTACATCTACGCCAAGGACCGCACAGACCGGATCCGCACATGTGCCATCCTCTGCCA CATCTACCACCATGCTCTGCACTCGCGCTGGTACCAGGCCCGCGACCTCATGCTCATGAGCCACTTGCAGGACAA CATTCAGCATGCAGACCCGCCAGTGCAGATCCTTTACAACCGCACCATGGTGCAGCTGGGCATCTGTGCCTTCCG CCAAGGCCTGACCAAGGACGCACACACGCCCTGCTGGACATCCAGTCGAGTGGCCGAGCCAAGGAGCTTCTGGG CCAGGGCCTGCTGCGCAGCCTGCAGGAGCGCAACCAGGAGCAGGAGAAGGTGGAGCGGCGCCGTCAGGTCCC CTTCCACCTGCACATCAACCTGGAGCTGCTGGAGTGTGTCTACCTGGTGTCTGCCATGCTCCTGGAGATCCCCTA GCGACAGCCCCTGCTGGGTCCCCTGAGTCCATGCGGGAACATGTGGTCGCTGCCTCCAAGGCCATGAAGATGGG TGACTGGAAGACCTGTCACAGTTTTATCATCAATGAGAAGATGAATGGGAAAGTGTGGGACCTTTTCCCCGAGGC TGTCTATGACTCCATCAGCATGGAGACGCTGTCAGACATGTTTGAGCTGGATCTGCCCCACTGTGCACTCCATCAT GGTGTTTGACCACAAGCAGGGCACCTACGGGGGCTACTTCCGAGACCAGAAGGACGGCTACCGCAAAAACGAGGG CTACATGCGCCGCGGTGGCTACCGCCAGCAGCAGTCTCAGACGGCCTACTGAGCTCTCCACTCTGTTTCCCGCCT GGGCCATCCAACCTTGAAGTCCTAAACCACACCTCAGTCACTAAAGGTCTGTTTAAAGTTGTTCTGGTTGATTGC AGGCTCAGATGAAGAGGTGAATTGAAC

4805/6881 FIGURE 4430A

ATGGACCAAGGCCCTTGGCGGTGCGTTGCGCATGCGCCCCGGGCGCCGACTGAAGTAGCAATGGACGCGCTG GAGTCGTTGTTGGACGAAGTCGCTCTGGAGGGGCTCGATGGCCTGTGTCTGCCAGCGCTGTGGAGCCGGCTGGAG ACGCGAGTGCCGCCCTTCCCGCTGCCTTTGGAACCCTGCACGCAGGAGTTTCTCTGGCGGGCCCTCGCCACGCAC CCGGGCATCAGCTTCTATGAGGAGCCTCGGGAGCGACCCGACCTACAGCTCCAGGACCGGTATGAAGAAATTGAT TTGGAAACTGGAATTTTGGAGTCTAGGAGGGACCCGGTGGCTTTGGAGGATGTCTACCCCATTCATATGATCTTA GAGAATAAGGATGGCATCCAGGGCTCATGCCGCTACTTTAAGGAGAGGAAAAACATTACCAATGACATCAGAACC AAGTCCTTGCAGCCTCGCTGTACAATGGTGGAAGCCTTTGACAGGTGGGGGAAGAAACTGATCATCGTTGCCTCC CAĠGCCATGCGGTACAGGGCCTTGATAGGCCAGGAGGGGGGTCCCGACCTGAAGCTGCCCGACTTCTCCTACTGC ATCCTGGAACGGCTAGGCCGGTCCAGGTGGCAAGGGGAGCTCCAGCGAGACCTTCACACCACTGCTTTCAAGGTT GATGCTGGGAAGCTGCACTATCACAGAAAAATTTTGAACAAAAACGGGCTGATTACAATGCAGTCCCATGTGATC CGATTACCCACTGGAGCCCAGCAACACTCAATCCTCCTCCTACTGAACCGGTTTCATGTGGACAGGAGGAGCAAA TACGACATCCTCATGGAGAAGCTTTCGGTCATGCTGAGCACACGGACTAACCACATAGAGACGCTGGGAAAGCTG AGGGAAGAGCTGGGGCTGTGCGAAAGGACGTTTAAGCGTCTGTACCAGTATATGCTGAACGCCGGGCTAGCCAAG GTTCGGTGCCTCAAGCTGCTGAAGGAATTTAAACGGAATGACCATGATGACGAGGACGAGGAGGACGACGACGAGGACCATCTCC AAGACAGTGCCTCCAGTGGACATTGTGTTCGAGCGGGATATGCTCACACAGACCTACGACCTCATTGAGCGCAGA GGCACGAAAGGAATTTCCCAAGCTGAAATCCGAGTGGCTATGAATGTGGGAAAACTAGAAGCAAGAATGCTGTGC CGACTTCTTCAAAGATTCAAAGTTGTCAAGGGATTCATGGAAGACGAAGGTCGGCAGCGAACCACCAAGTACATT ACCGTGAGCCTGGCGTCTATGCAGGAGGAGTCGCTTCTGCCTGAAGGCGAGGACACCTTCCTCTCTGAGTCGGAC AGTGAGGAGGAGGAGCAGCAGCAGCGAGAGGCCAGAGGGTCCCAGAAAGACACAAGAGCCTCTGCAAACCTC GATACCAGCAGCGTCTCAGAACCCAACGTGTCCTTTGTCTCCCACTGTGCGGACAGCAACAGTGGTGACATAGCT GTGATCGAGGAGGTCCGGATGGAAAACCCAAAGGAGAGTAGCAGTTCCCTGAAGACTGGGAGGCACAGCTCAGGC CAAGACAAACCACACGAAACTTACCGACTGCTGAAACGCAGGAATCTGATCATAGAAGCTGTCACCAATCTTCGC TTAATCGAGAGTTTATTCACGATTCAGAAGATGATCATGGATCAGGAGAAGCAGGAAGGCGTGTCCACCAAGTGC TGCAAGAAGTCCATTGTCCGCTTGGTGCGGAACCTGTCTGAGGAAGGTCTCTTGCGATTGTATCGGACCACTGTC ATTCAAGATGGCATCAAGAAGAAGGTGGATCTGGTGGTGCACCCGTCCATGGACCAGAACGACCCTCTAGTGAGA AGTGCCATCGAGCAGGTCCGCTTCCGGATCTCCAATTCAAGCACAGCCAACAGGGTTAAAACTTCCCAGCCTCCA GTGCCCCAAGGGGAGGCAGAAGAAGACAGTCAAGGAAAAGAGGGCCCCAAGTGGATCAGGGGACTCTCAGCTGAGT GCTTCCTCTAGATCAGAAAGTGGACGGATGAAAAAAAGTGATAATAAAATGGGCATAACCCCGCTTAGAAATTAT CACCCCATTGTAGTTCCCGGACTGGGGCGTTCTCTAGGATTTCTGCCCAAAATGCCTCGCCTGCGGGTGGTCCAC ATGTTTCTGTGGTACCTCATCTACGGGCACCCTGCCAGCAACACCGTGGAGAAGCCAAGCTTCATCAGTGAACGG AGAACGATAAAGCAGGAGTCAGGCAGGGCAGGCGTCCGGCCGTCCTCTGGAAGTGCCTGGGAGGCCTGCTCT GAAGCCCCATCTAAAGGCAGCCAAGATGGTGTCACCTGGGAGGCTGAAGTGGAGCTTGCCACGGAGACAGTGTAT GTCGACGATGCCTCGTGGATGCGCTACATCCCCCAATCCCAGTCCACAGGGACTTCGGCTTTGGCTGGGCTCTC GTCAGCGACATCCTCCTCTCCCTCTCCATCTTCATCCAGATTGTGCAAGTCAGCTACAAGGTGGACAAC CTGGAGGAATTTCTGAACGACCCGCTGAAGAAGCACACGCTGATCCGCTTTCTCCCCAGGCCCATTCGGCAGCAG CTTCTGTACAAGAGGCGTTACATTTTTCGGTGGTGGAGAACCTTCAGAGGCTGTGCTACATGGGGCTGCTACAG TTTGGTCCCACGGAAAAGTTTCAGGATAAAGATCAGGTCTTTATCTTCTTGAAGAAGAATGCAGTCATTGTTGAC ACTACCATCTGCGACCCACATTACAACCTGGCCCGCAGCAGCCGGCCCTTCGAGAGGCGCCTCTATGTCCTGAAC TCAATGCAGGATGTGGAAAACTACTGGTTTGACCTGCAGTGCGTCTGCCTCAACACCCCCACTAGGCGTGGTGCGC AGCGCCATGGACAAGCACAACCTGGAGCGCAAGTGCGCCATGCTGGAGTACACCACTGGAAGCCGTGAGGTGGTG GATGAAGGCTTGATCCCTGGAGATGGGCTGGGTGCCGCAGGGCTCGATTCCAGCTTCTACGGACACCTCAAGCGC AACTGGATCTGGACCAGCTACATCATCAACCAGGCCAAAAAGGAGAACACTGCCGCAGAGAATGGACTCACAGTG AGGCTCCAGACATTTCTGTCCAAGCGCCCAATGCCCCTCAGTGCCAGAGGCAACAGCAGGTTGAATATTTGGGGG

4806/6881 FIGURE 4430B

GAAGCAAGAGTAGGCTCCGAGCTCTGTGCTGGCTGGGAAGAGCAGTTTGAGGTGGACCGAGAGCCCTCGCTGGAC CGAAACCGGAGAGTGAGGGGTGGGAAAAGCCAGAAGCGGAAGCGGCTGAAGAAGGACCCTGGGAAGAAGATCAAG AGAAAGAAGAAAGGAGAGTTCCCAGGAGAAAAAAGCAAAAGGCTGCGCTACCATGATGAAGCCGACCAGAGTGCC CTGCAGCGGATGACGCGGCTTCGTGTCACCTGGTCTATGCAGGAGGATGGGCTGCTTGTGCTGTGCCGCATTGCC AGCAATGTCCTCAACACCAAGGTGAAGGGCCCATTTGTCACCTGGCAGGTGGTACGGGACATTTTGCATGCCACG TTTGAAGAGTCTTTGGATAAAACATCTCATTCCGTTGGACGAAGAGCTCGCTACATAGTCAAAAACCCACAGGCC TATCTCAACTATAAAGTGTGCCTGGCCGAGGTGTACCAGGATAAAGCACTTGTTGGAGATTTCATGAATCGAAGA GGTGACTATGATGACCCAAAGGTTTGTGCCAACGAGTTTAAAGAATTTGTGGAGAAGCTTAAAGAAAAGTTCAGT TCAGCCCTAAGGAATTCTAACCTTGAAATCCCAGACACACTCCAGGAGCTGTTCGCCAGGTACCGAGTTTTGGCA ATTGGGGATGAAAAAGATCAAACCAGGAAAGAGGATGAACTTAACAGCGTGGATGACATCCACTTTCTGGTGCTT CAGAACCTGATCCAGAGCACGCTGGCCCTCTCAGACAGTCAGATGAAGTCCTACCAGTCATTCCAGACTTTCCGC CTCTATCGGGAGTACAAGGACCACGTTCTTGTGAAGGCCTTCATGGAGTGCCAGAAGAGGAGCTTGGTCAACCGG CGCCGGGTCAACCACACGCTGGGCCCCAAGAAGAACCGGGCCCTCCCCTTCGTGCCAATGTCCTACCAGCTATCC CAGACCTACTACAGGATTTTTACGTGGCGATTTCCAAGCACCATCTGCACGGAGTCATTCCAGTTTTTGGACAGA ATGCGGGCTGCCGGCAAGTTGGACCAGCCTGATCGTTTCTCTTTCAAAGACCAGGATAATAACGAGCCCACAAAC GACATGGTGGCCTTTTCACTGGACGGCCCTGGAGGAAATTGTGTGGCCGTCCTGACCCTCTTCTCTCTGGGCCTC ATTTCTGTGGATGTCAGGATCCCGGAGCAGATCATCGTGGTAGACAGCTCAATGGTGGAGAATGAGGTCATCAAA AGCTTGGGGAAGGACGCCTGGAGGATGACGAGGATGAAGAGGATGACTTGGACGAAGGTGTAGGGGGCAAG CGCCGGAGCATGGAGGTGAAACCTGCGCAAGCCTCCCACACCAACTACCTGCTGATGAGGGGCTACTACTCCCCC GGCATCGTCAGCACCCGCAACCTCAACCCCAACGACAGCATTGTGGTCAACTCCTGCCAGATGAAGTTCCAGCTC CGCTGCACCCCTGTGCCCGCCCGGCTCAGGCCCGCTGCCGCTCCTCTGGAAGAGCTAACAATGGGAACCTCCTGC CTCCCTGATACGTTCACCAAGCTGATAAACCCCCAGGAAAACACCTGCAGCTTGGAGGAGTTTGTCCTCCAGCTG GAGCTGTCTGGGTATAGTCCCGAAGACCTGACTGCTGCCTTGGAGATCTTGGAAGCCATTATAGCCACGGGTTGT TTTGGGATTGACAAGGAGGAGCTGCGCAGACGGTTCTCGGCCTTGGAGAAGGCAGGTGGTGGGCGCACCAGGACA TTCGCAGATTGCATCCAGGCCCTCCTGGAGCAGCATCAGGTGCTGGAGGTCGGTGGCAACACTGCGCGCCCTGGTA GCCATGGGCTCTGCCTTGGCTCCTGCACTCCGTGCGGCTGAAAGACAGAGAAGACGCCGACATCCAGAGA CACAGCCCCGGGGCACCAAGAGGCGCCCAGCTGGGCCAGTGAGAATGGGGAGACCGACGCCGAGGGCACCCAG ATGACCCCTGCCAAGAGGCCAGCGCTCCAGGACTCAAATTTGGCCCCCAGCCTTGGGCCCGGAGCTGAAGATGGG GCAGAAGCCCAGGCCCCATCTCCACCCCCAGCTCTTGAAGACACCGCTGCAGCGGGAGCAGCACAGGAAGACCAA GAGGGTGTCGGTGAGTTCAGTTCCCCAGGCCAAGAGCAGCTGAGCGGCCAGGCGCAGCCTCCAGAGGGCTCTGAA GACCCCAGAGGGTTCACAGAGAGTTTCGGAGCTGCCAACATCTCCCAGGCAGCACGGGAAAGGGACTGTGAGAGT GTCTGCTTCATCGGCCGGCCGTGGCGTGTCGTGGATGGCCACCTGAACCTTCCTGTATGCAAGGGTATGATGGAG GCCATGCTGTACCACATCATGACCAGGCCTGGCATCCCCGAGAGCTCCCTGCTGCGCCACTACCAGGGGGTCCTG CCAAGGCCTGTCTCGCTCTTCTCTACACCCGTGGTGGAAGAGGTGGAAGTGCCCTCCAGCCTGGACGAGAGCCCC ATGGCTTTCTATGAGCCCACCTTGGACTGTACCCTCCGGCTGGGCCGTGTGTTCCCCCCACGAGGTCAACTGGAAC GTGCTCGGCAGACCCCACTGTGCCCTGGCCTTGGGTCTGCCGAGCCTCCTGCAGCAGGGGACGGGTGCTTTGGCC AGAGTCACAGACTGACACGTTTCCCACTGTACTGGAACTCTGGAAAGAGGGGCTCCCCGACCTGCCCATCCCCCA GGCTCTTCTGGGCCTTCCCCTTGGGAACTGGCCTCATCACACTGGGAGTTGGTGCTTCTTGTCTCTGGGTCTCCA GAGTTTGCCCCGCCTGTGCACACCTCACATTCCAGACTCTAGCCATCTCGGCAGGATCTCCTGGCTCCTTGAGTG CCCAGGTGCCACCAAGAGGAAGGGCCTTGTGGGATACACCTTGCAGAATAGGGATCGGTGTGCCCCGCTGCGAGG GGCTGGTGATTCCTTGCAGG

GTCGTGATCAGACGAGCGGTGAGCGATCGATACTCCTATGCTAGCCTCTGGCTCCTCAGGGGACACAGCCGAGTG GTCGGACCAAACGCAACGAGTCTTCGCCAGCCCAAAGGCGACTCGACACCGTCCCAGCTGAAGAGAGACGCACGGGA $\tt CTGAACCAGCTGGTGGTGGCCCG\underline{ATG}GCTGGAGACACCCACTGCCCCGCAGAGCCCCTGGCCAGAGAAGGCACTT$ TATGGGAGGCCCTCAGGGCGCTCCTGCCGCACAGTAAAGAAGACCTGAAGTTGGACCTCGGGGAGAAAGTGGAGA GGAGCGTGGTGACATTGTTGCAGCGAGCCACTGAGCTCTTCTACGAGGGCAGGAGGGACGAGTGTCTGCAGAGCA GCGAGGTGATCCTGGACTACTCCTGGGAGAAGCTCAACACGGGCACATGGCAGGACGTAGACAAAGACTGGCGCC GGGTCTACGCCATCGGCTGCCTCCTGAAAGCCCTGTGTCTGTGCCAGGCACCTGAGGATGCCAACACTGTGGCCG AGCATTTCAGGGAGCAGTTTTTGGTTCCAGGGAGGCCCGTGATCCTGAAAGGCGTGGCTGACCACTGGCCGTGCA ACACAGATGAGGAATGGTCCCAGACCCTCATGACGGTCAACGAGTTCATCAGCAAATACATCGTGAATGAGCCAA GGGACGTCGGGTACCTTGCTCAGCACCAGCTCTTTGACCAGATCCCGGAGTTGAAGCAGGACATCAGCATCCCCG ACTACTGCAGCCTGGGCGATGGGGAGGAGGAGGAAATCACCATCAATGCCTGGTTTGGTCCCCAGGGAACCATCT CGCAGGAGTCAGGGGCTCTGTACCCTCATGACACGCACCTTCTCCATAACACGAGCCAGGTTGACGTGGAGAATC CCGACCTGGAAAAGTTCCCCAAGTTTGCCAAGGCCCCATTCCTGTCCTGCATCCTGTCTCCTGGAGAGATCCTGT CAGGATAGGAGCTGAAAGGGCCTGACATGCAGACAGCATTCATCTGTTCACTAATTTCCTGGGTCCTGGAATCTA TAGAGACAAGCAGGACTGAACCTGTGTCCTGAAGAGCCTTCACTGCCCAGTGGCAGCCCTGGGGGGCTGAGCTCC GTGGGGAGAGCCCAGAAGGACATTGCAGACAGACAGCCTGCATGGGGACTCTGGCATCAGAAAGCCGAATGTTTT TGGGAAACGGGTGGGTCACACAGGCAGGGGTGAAACATGGGCTCTGAGGTTGGCTACCTGATTCAAACCCGGCCG CGCTGTGCACCTGCTGGGTGACTTGGCCAGGATCCCCCACTTCGCTGTGCCCATATGGAAAAAGAGGGCCAAGGCCA GTCCTCACTGCCGAGGGCCGAGAAGGCGGTGCCGAGCCCCTGCTGCTGCATGAACCTTAGCCGCTGTCACTGATC CCAATTACTCTGATCCTTTTGCCCTTCCCATAACGGCCTGCTGGACGCCACAGCCTGAATACTGGAGAGAG CTGGGCATTGCCCAGGTCACAGGAGAGAGTCCGTAGAGACCTGCGCAGGAGCCGGGACCCCTGCTGAGCAGTGGG TTTCACCCGCACTCACCCAGGAGCAGGCTCCCAAGTGAAGAACCACCGAACCATCACCAGCTCCTAGAAGCCTC CCTCCTACCACCTTCTAGTCACCATCCCCCAGAAGTAATGACTCTCAAACCTGGGGGGATTTGAGGCCAGGGGGAG ATTTTCCCCAGCCCTC

MAGDTHCPAEPLAREGTLWEALRALLPHSKEDLKLDLGEKVERSVVTLLQRATELFYEGRRDECLQSSEVILDYS WEKLNTGTWQDVDKDWRRVYAIGCLLKALCLCQAPEDANTVAAALRVCDMGLLMGAAILGDILLKVAAILQTHLP GKRPARGSLPEQPCTKKARADHGLIPDVKLEKTVPRLHRPSLQHFREQFLVPGRPVILKGVADHWPCMQKWSLEY IQEIAGCRTVPVEVGSRYTDEEWSQTLMTVNEFISKYIVNEPRDVGYLAQHQLFDQIPELKQDISIPDYCSLGDG EEEEITINAWFGPQGTISPLHQDPQQNFLVQVMGRKYIRLYSPQESGALYPHDTHLLHNTSQVDVENPDLEKFPK FAKAPFLSCILSPGEILFIPVKYWHYVRALDLSFSVSFWWS

WO 2004/030615 PCT/US2003/028547

4810/6881 FIGURE 4434

WO 2004/030615 PCT/US2003/028547

4811/6881 FIGURE 4435

GAAGCAGTTCAACCGCATGAAGCAGCTGGCTAACCAGACCGTGGGCAGAGCTGAGAAAACAGAAGTCCTTAGTGA AGATCTATTACAGATTGAGAGACGCCTGGACACGGTGCGGTCAATATGCCACCATTCCCATAAGCGCTTGGTGGC ATGTTTCCAGGGCCAGCATGGCACCGATGCCGAGAGAGACACAAAAAACTGCCTCTGACAGCTCTTGCTCAAAA TATGCAAGAAGCATCGACTCAGCTGGAAGACTCTCTCCTGGGGAAGATGCTGGAGACGTGTGGAGATGCTGAGAA TCAGCTGGCTCTCGAGCTCTCCCAGCACGAAGTCTTTGTTGAGAAGGAGATCGTGGACCCTCTGTACGGCATAGC AGCCAGGTGGAACCAAGCTCACAAATCCTCAGGAACCAACTTTCAGGGGCTTCCATCAAAAATAGATACTCTAAA GGAAGAGATGGATGAAGCTGGAAATAAAGTAGAACAGTGCAAGGATCAACTTGCAGCAGACATGTACAACTTTAT GGCCAAAGAAGGGGAGTATGGCAAATTCTTTGTTACGTTATTAGAAGCCCAAGCAGATTACCATAGAAAAGCATT AGCAGTCTTAGAAAAGACCCTCCCCGAAATGCGAGCCCATCAAGATAAGTGGGCGGAAAAACCAGCCTTTGGGAC GGAGACAGGCATGAAGGAGGAGGGCCTTTTCCGAATTGGGGCTGGGGCCTCCAAGTTAAAGAAGCTGAAAGCTGC TTTGGACTGTTCTCACCTGGATGAGTTCTATTCAGACCCCCATGCTGTAGCAGGTGCTTTAAAATCCTA TTTACGGGAATTGCCTGAACCTTTGATGACTTTTAATCTGTATGAAGAATGGACACAAGTTGCAAGTGTCAGGA TCAAGACAAAAACTTCAAGACTTGTGGAGAACATGTCAGAAGTTGCCACCACAAAATTTTGTTAACTTTAGATA TTTGATCAAGTTCCTTGCAAAGCTTGCTCAGACCAGCGATGTGAATAAAATGACTCCCAGCAACATTGCGATTGT GTTAGCCCCTAACTTGTTATGGGCCAGAAACGAAGGAACACTTGCTGAAATGGCAGCAGCCACATCCGTCCATGT GGTTGCAGTGATTGAACCCATCATTCAGCATGCCGACTGGTTCTTCCCTGAAGAGGTGGAATTTAATGTATCAGA AGCATTTGTACCTCTCACCACCCCGAGTTCTAATCACTCATTCCACACTGGAAACGACTCTGACTCGGGGACCCT GGAGAGGAAGCGGCCTGCTAGCATGGCGGTGATGGAAGGAGCTTGGTGAAGAAGGAAAGTCCTCCCAAACCGAA GGACCCTGTATCTGCAGCTGTGCCAGCACCAGGGAGAAACAACAGTCAGATAGCATCTGGCCAAAATCAGCCCCA GGCAGCTGCTGGCTCCCACCAGCTCTCCATGGGCCAACCTCACAATGCTGCAGGGCCCAGCCCGCATACACTGCG CCGAGCTGTTAAAAAACCCGCTCCAGCACCCCCGAAACCGGGCAACCCACCTCCTGGCCACCCCGGGGGCCAGAG GCACACGGGCCAGCCTCCAGGCCAGCCCTCCCAGCTCTCAGCACCCCGGAGGTACTCCAGCAGCTT GTCTCCAATCCAAGCTCCCAATCACCCACCGCCGCAGCCCCTACGCAGGCCACGCCACTGATGCACACCAAACC CAATAGCCAGGGCCCTCCCAACCCCATGGCATTGCCCAGTGAGCATGGACTTGAGCAGCCATCTCACACCCCTCC CCAGACTCCAACGCCCCCAGTACTCCGCCCCTAGGAAAACAGAACCCCAGTCTGCCAGCTCCTCAGACCCTGGC AGGGGGTAACCCTGAAACTGCACAGCCACATGCTGGAACCTTACCGAGACCGAGACCAGTACCAAAGCCAAGGAA CCGGCCCAGCGTGCCCCCCCCCCCCAACCTCCTGGTGTCCACTCAGCTGGGGACAGCAGCCTCACCAACACACC ACCAACAGCTTCCAAGATAGTAACAGACTCCAATTCCAGGGTCTCAGAACCGCATCGCAGCATCTTTCCTGAAGT GCACTCAGACTCAGCCAGCAAAGACGTGCCTGGCCGCATCCTGCTGGATATAGACAATGATACCGAGAGCACTGC $\texttt{CCTG}\underline{\textbf{TGA}} \texttt{AGAAAGCCCTTTCCCAGCCCTCCACCACTTCCACCCTGGCGAGTGGAGCAGGGGGAGCGAACCTCTT}$ TCTTTGCAGACCGAACAGTGAAAAGCTTTCAGTGGAGGACAAAGGAGGGCCTCACTGTGTGGGGACCTGGCCTTCT CATGGGAAGGAAATCATGCCAAAAAAATCCAAAACAAAGAAGTACCTGGAGTGGAGAGAGTATTCCTGCTGAAAC GCGCATAGGAAGCTTTTGTCCCTGCTGTTAATGCGGGCAGCACCTACAGCAACTTGGAATGAGTAAGAAGCAGTG CGTTAACTATCTATTTAATAAAATGCGCTCATTATGCAAGTCGCCTACTCTCTGCTACCTGGACGTTCATTCTTA TGTATTAGGAGGGAGGCTGCGCTCCTTCAGACTTGCTGCAGAATCATTTTGTATCATGTATGGTCTGTGTCTCCC CAGTCCCCTCAGAACCATGCCCATGGATGGTGACTGCTGGCTCTGTCACCTCATCAAACTGGATGTGACCCATGC TTGATAAGGACCGAACATTATTCTAGTTTCATGTTTAATTTGAATTAAATATATTCTGTGGTTTATATG

MKKQFNRMKQLANQTVGRAEKTEVLSEDLLQIERRLDTVRSICHHSHKRLVACFQGQHGTDAERRHKKLPLTALA QNMQEASTQLEDSLLGKMLETCGDAENQLALELSQHEVFVEKEIVDPLYGIAEVEIPNIQKQREQLARLVLDWDS VRARWNQAHKSSGTNFQGLPSKIDTLKEEMDEAGNKVEQCKDQLAADMYNFMAKEGEYGKFFVTLLEAQADYHRK ALAVLEKTLPEMRAHQDKWAEKPAFGTPLEEHLKRSGREIALPIEACVMLLLETGMKEEGLFRIGAGASKLKKLK AALDCSTSHLDEFYSDPHAVAGALKSYLRELPEPLMTFNLYEEWTQVASVQDQDKKLQDLWRTCQKLPPQNFVNF RYLIKFLAKLAQTSDVNKMTPSNIAIVLAPNLLWARNEGTLAEMAAATSVHVVAVIEPIIQHADWFFPEEVEFNV SEAFVPLTTPSSNHSFHTGNDSDSGTLERKRPASMAVMEGDLVKKESPPKPKDPVSAAVPAPGRNNSQIASGQNQ PQAAAGSHQLSMGQPHNAAGPSPHTLRRAVKKPAPAPPKPGNPPPGHPGGQSSSGTSQHPPSLSPKPPTRSPSPP TQHTGQPPGQPSAPSQLSAPRYSSSLSPIQAPNHPPPQPPTQATPLMHTKPNSQGPPNPMALPSEHGLEQPSHT PPQTPTPPSTPPLGKQNPSLPAPQTLAGGNPETAQPHAGTLPRPRPVPKPRNRPSVPPPPQPPGVHSAGDSSLTN TAPTASKIVTDSNSRVSEPHRSIFPEVHSDSASKDVPGRILLDIDNDTESTAL

4814/6881 FIGURE 4438A

GAAACCTCTAGGTCCACCACCTCCATCTTACACGTGTTTCCGTTGTGGTAAACCTGGACATTATATTAAGAATTG CCCAACAAATGGGGATAAAAACTTTGAATCTGGTCCTAGGATTAAAAAGGGCACTGGAATTCCCAGAAGTTTCAT GATGGAAGTGAAAGATCCTAATATGAAAGGTGCAATGCTTACCAACACTGGAAAATATGCAATACCAACTATAGA TGCAGAAGCATATGCAATTGGGAAGAAAGAGAAACCTCCCTTCTTACCAGAGGAGCCATCTTCTTCCTCAGAAGA AGATGATCCTATCCCAGATGAATTGTTGTGTCTCATCTGCAAGGATATTATGACTGATGCTGTTGTGATTCCCTG CTGTGGAAACAGTTACTGTGATGAATGTATAAGAACAGCACTCCTGGAATCAGATGAGCACACATGTCCGACGTG TCATCAAAATGATGTTTCTCCTGATGCTTTAATTGCCAATAAATTTTTACGACAGGCTGTAAATAACTTCAAAAA TGAAACTGGCTATACAAAAAGACTACGAAAACAGTTACCTCCTCCACCCCCCAATACCACCTCCGAGACCACT GATTCAGAGGAACCTACAACCTCTGATGAGATCTCCGATATCAAGACAACAAGATCCTCTTATGATTCCAGTGAC ATCTTCATCAACTCACCCAGCTCCGTCTATATCTTCATTAACTTCTAATCAGTCTTCCTTGGCCCCTCCTGTGTC ATCAGATGGACCTTTTCGGGATTCTGATAATAAATTTGCCAGCTGCAGCTCTTGCATCAGAGCACTCAAAGGG AACCTCCTCAATTGCAATTACCGCTCTTATGGAAGAGAGGGTTACCAGGTGCCTGTTCTTGGAACCCCATCTTT TGGTGGTCGACCAGGCTGGGAACATTCCAACAAACTTGGCTATCTGGTTTCTCCACCACAACAAATTAGAAGAGG GGAGAGGAGCTGCTACAGAAGTATAAACCGTGGGCGACACCACAGCGAAAGATCACAGAGGACTCAAGGCCCGTC ACTACCAGCAACTCCAGTCTTTGTACCTGTTCCACCACCTCCTTTGTATCCGCCTCCTCCCCATACACTTCCTCT CCCTCCTCCAGGGTTTCCTCCAGCTCCTGCCAATTTATCAACACCTTGGGTATCATCAGGAGTGCAGACAGCTCA TTCAAATACCATCCCAACAACACAAGCACCACCTTTGTCCAGGGAAGAATTCTATAGAGAGCAGCGACGACTAAA AGAAGAGTCTAAATCTCCCTATAGTGGTTCTTCGTATTCAAGAAGTTCATATACTTATTCTAAATCAAGATCTGG TTCAACACGTTCACGCTCTTATTCTCGATCATTCAGCCGCTCACATTCTCGTTCCTATTCACGGTCACCTCCATA CCCCAGAAGAGGCAGAGGCAAGAGCCGCAATTACCGTTCACGGTCTAGATCTCATGGATATCATCGATCTAGGTC AAGGTCACCCCTTACAGACGCTATCATTCACGATCAAGATCTCCTCAAGCGTTTAGGGGACAGTCTCCTAATAA ACGTAATGTACCTCAAGGGGAAACAGAACGTGAATATTTTAATAGATACAGAGAAGTTCCACCACCATATGACAT GAAAGCATATTATGGGAGAAGTGTTGACTTTAGAGACCCATTTGAAAAAGAACGCTACCGAGAATGGGAGAGAAA ATATAGAGAGTGGTATGAAAAATATTATAAAGGTTATGCTGCTGGAGCACAGCCTAGACCCTCAGCAAATAGAGA GAACTTTTCTCCAGAGAGATTTTTGCCACTTAACATCAGGAATTCTCCCTTCACAAGAGGCCGCAGAGAAGACTA TGTTGGTGGCAAAGTCATAGAAGTCGAAACATAGGTAGCAACTATCCAGAAAAGCTTTCAGCAAGAGATGGTCA CAATCAGAAGGATAATACAAAGTCAAAAGAGAAGGAGAGTGAAAACGCTCCAGGAGATGGTAAAGGAAATAAGCA TAAGAAACACAGAAAAAGAAGAAAAGGGGGAGGAAAGTGAGGGTTTTCTGAACCCAGAGTTATTAGAGACTTCTAG AAGGGATAAACCAAAAGCAAAGGGTGATAAAACCAAACGGAAGAATGATGGATCTGCTGTGTCCAAAAAAGAAAA TATTGTAAAACCTGCTAAAGGACCCCAAGAAAAAGTAGATGGAGAACGTGAGAGATCTCCTCGATCTGAACCTCC **AATTAAAAAAGCCAAAGAGGAGACTCCGAAGACTGACAATACTAAATCATCATCTTCCTCTCAGAAGGATGAAAA** AATCACTGGAACCCCCAGAAAAGCTCACTCTAAATCAGCAAAAGAACACCAAGAAACCAAGTCAAAGAGGA AAAAGTGAAGAAGGACTATTCCAAAGATGTCAAATCAGAAAAGCTAACAACTAAGGAAGAAAAGGCCAAGAAGCC TAATGAGAAAAACAAACCACTTGATAATAAGGGAGAAAAAAGAAAAAGAAAAACTGAAGAAAAAGGCGTAGATAA AGATTTTGAGTCTTCTTCAATGAAAATCTCGAAACTAGAAGTGACTGAAATAGTGAAACCATCACCAAAGCGCAA AATCAAACTCAACAGAGAAACTGGGAAGAAAATTGGAAGTACAGAAAATATATCAAACACAAAAGAACCCTCTGA AAAATTGGAGTCAACATCTAGCAAAGTTAAACAAGAAAAAGTCAAAGGAAAGGTCAGACGAAAAGTGACTGGAAC TGAAGGATCCAGCTCAACTCTGGTGGATTACACCAGTACGAGCTCAACTGGAGGCAGTCCTGTGCGGAAATCTGA AGAAAAAACAGATACAAAGCGAACTGTGATTAAAACGATGGAAGAATATAATAATGACAATACCGCGCCAGCTGA AGATGTTATCATTATGATTCAGGTTCCTCAATCCAAATGGGATAAAGATGACTTTGAATCTGAAGAAGAAGATGT TAAATCCACACCCTATATCAAGTGTAGGAAAACCTGCTAGTGTTATAAAAAATGTTAGTACAAAGCCATCAAA TATAGTCAAGTATCCTGAGAAAGTGAGCCATCCGAGAAAATTCAGAAATTCACCAAGGACGTGAGCCATGA

4815/6881 FIGURE 4438B

AATCATACAACATGAGGTTAAAAGTTCAAAAAACTCTGCATCTAGTGAAAAAAGGGAAAACCAAAGATCGAGATTA TTCAGTGTTGGAAAAGGAGAACCCTGAAAAGAGGAAGAACAGCACTCAGCCAGAGAAAGAGAGAATTTTGGACCG TCTGAATGAACAAGGAAATTTTAAAAGTCTGTCTCAATCTTCCAAAGAGGCTAGAACGTCAGATAAACATGATTC CACTCGTGCTTCCTCAAATAAAGACTTCACTCCCAATAGAGACAAAAAAACTGACTATGACACCAGAGAGTATTC AAGTTCCAAACGTAGAGATGAAAAGAATGAATTAACAAGACGAAAAGACTCTCCTTCTCGGAATAAAGATTCTGC ATCTGGACAGAAAATAAACCAAGGGAAGAGAGAGATTTGCCTAAAAAAGGAACAGGAGATTCCAAAAAAAGTAA TTCTAGTCCCTCAAGAGACAGAAAACCTCATGATCACAAAGCCACTTATGATACTAAACGGCCAAATGAAGAGAC AAAATCTGTAGATAAAAATCCTTGTAAGGATCGTGAGAAGCATGTATTAGAAGCAAGGAACAATAAAGAGTCAAG TGGCAATAAACTACTTATATACTTAACCCACCAGAGACACAGGTTGAAAAAGAGCAAATTACTGGGCAAATTGA CAAGAGTACTGTCAAGCCTAAACCCCAGTTAAGTCATTCCTCTAGACTTTCCTCTGACTTAACTAGAGAAACTGA TGAAGCTGCTTTTGAACCAGACTATAATGAAAGTGACAGTGAAAGTAATGTTTCTGTAAAAGAAGAAGCAATCTTC AGGAAACATTTCTAAGGACCTGAAAGATAAAATAGTGGAGAAAGCAAAAGAGAGCCTGGACACAGCAGCAGTTGT CCAGGTGGGCATAAGCAGGAATCAGAGCCACAGCAGCAGCCCCAGCAGCAGAAGCCACAGTCCTTCTGG GGAAAAGAAAAACACAAGAAACATAAAAAGCATAAGAAGCATAAGAAACATGCAGGCACTGAAGTGGAATTGGA AAAAAGCCAAAAACACAAACACAAGAAAAGAAGTCAAAGAAGAACAAAGATAAAGAGAAGGAGAAGGAAAGA TGACCAAAAAGTGAAATCTGTCACTGTGTAAAAAGACAGATTTTTTAAATTGACTTAATTACTAAGTCATCTGTA TTAAATTTTGTTATAATGTAAAGAGATTCAAGCCTTGTAAATAATGACATGGAAGACCCTGTGCTGCACTTAAAA TATTGCTGCTTGATTATTTGATTTTTACATCAGAGCTTTATAACACGAACTTTTGTACAGAATTGTGAGTTGTGA AATGTGAAATTTTCACATTTGAATTTTTTAATTGCCTGGCAAAAGCTGATATAAGTTCTAAAATATCAGCAGAAT GATTTGCTGAATTCATTACAACCCTGTTATGTCACTTTTTGATTACAATAAAAGTTTTCAGTAAACTTTTC

MATTKAIDDSSASISLAQLTKTANLAEANASEEDKIKAMMSQSGHEYDPINYMKKPLGPPPPSYTCFRCGKPGHY IKNCPTNGDKNFESGPRIKKSTGIPRSFMMEVKDPNMKGAMLTNTGKYAIPTIDAEAYAIGKKEKPPFLPEEPSS SSEEDDPIPDELLCLICKDIMTDAVVIPCCGNSYCDECIRTALLESDEHTCPTCHQNDVSPDALIANKFLRQAVN ${\tt NFKNETGYTKRLRKQLPPPPPPPPPPPPPLIQRNLQPLMRSPISRQQDPLMIPVTSSSTHPAPSISSLTSNQSSLA}$ PPVSGNPSSAPAPVPDITATVSISVHSEKSDGPFRDSDNKILPAAALASEHSKGTSSIAITALMEEKGYQVPVLG TPSLLGQSLLHGQLIPTTGPVRINTARPGGGRPGWEHSNKLGYLVSPPQQIRRGERSCYRSINRGRHHSERSQRT QGPSLPATPVFVPVPPPPLYPPPPHTLPLPPGVPPPQFSPQFPPGQPPPAGYSVPPPGFPPAPANLSTPWVSSGV QTAHSNTIPTTQAPPLSREEFYREQRRLKEESKSPYSGSSYSRSSYTYSKSRSGSTRSRSYSRSFSRSHSRSYSR SPPYPRRGRGKSRNYRSRSRSHGYHRSRSRSPPYRRYHSRSRSPQAFRGQSPNKRNVPQGETEREYFNRYREVPP PYDMKAYYGRSVDFRDPFEKERYREWERKYREWYEKYYKGYAAGAQPRPSANRENFSPERFLPLNIRNSPFTRGR REDYVGGQSHRSRNIGSNYPEKLSARDGHNQKDNTKSKEKESENAPGDGKGNKHKKHRKRRKGEESEGFLNPELL ETSRKSREPTGVEENKTDSLFVLPSRDDATPVRDEPMDAESITFKSVSEKDKRERDKPKAKGDKTKRKNDGSAVS KKENIVKPAKGPQEKVDGERERSPRSEPPIKKAKEETPKTDNTKSSSSSQKDEKITGTPRKAHSKSAKEHQETKP VKEEKVKKDYSKDVKSEKLTTKEEKAKKPNEKNKPLDNKGEKRKRKTEEKGVDKDFESSSMKISKLEVTEIVKPS PKRKMEPDTEKMDRTPEKDKISLSAPAKKIKLNRETGKKIGSTENISNTKEPSEKLESTSSKVKQEKVKGKVRRK VIGTEGSSSTLVDYTSTSSTGGSPVRKSEEKTDTKRTVIKTMEEYNNDNTAPAEDVIIMIQVPQSKWDKDDFESE EEDVKSTQPISSVGKPASVIKNVSTKPSNIVKYPEKESEPSEKIQKFTKDVSHEIIQHEVKSSKNSASSEKGKTK DRDYSVLEKENPEKRKNSTQPEKESNLDRLNEQGNFKSLSQSSKEARTSDKHDSTRASSNKDFTPNRDKKTDYDT REYSSSKRRDEKNELTRRKDSPSRNKDSASGQKNKPREERDLPKKGTGDSKKSNSSPSRDRKPHDHKATYDTKRP NEETKSVDKNPCKDREKHVLEARNNKESSGNKLLYILNPPETQVEKEQITGQIDKSTVKPKPQLSHSSRLSSDLT RETDEAAFEPDYNESDSESNVSVKEEESSGNISKDLKDKIVEKAKESLDTAAVVQVGISRNQSHSSPSVSPSRSH KEKDDQKVKSVTV

WO 2004/030615 PCT/US2003/028547

4818/6881 FIGURE 4441

 ${\tt MSCVHYKFSSKLNYDTVTFDGLHISLCDLKKQIMGREKLKAADCDLQITNAQTKEGKGRLVLRYLVAGERY}$

 ${\tt GGCACGAGGGAGCGGTGCGGAGGCTCTGCTCGGATCGAGGTCTGCAGCGCAGCTTCGGGAGC} {\color{red} \underline{\bf ATG}} {\tt AGTGCTGCAG}$ TGACTGCAGGGAAGCTGGCACGGGCACCCTGGGAAAGCCGGGGTCCCCGGAGTTGCAGCTCCCGGAG GGGGCCGCTTTTTGGGCAAGGGCGGCTTTGCCAAGTGCTTCGAGATCTCGGACGCGGACACCAAGGAGGTGTTCG CGGGCAAGATTGTGCCTAAGTCTCTGCTGCTCAAGCCGCACCAGAGGGAAGATGTCCATGGAAATATCCATTC ACCGCAGCCTCGCCCACCAGCACGTCGTAGGATTCCACGGCTTTTTCGAGGACAACGACTTCGTGTTCGTGGTGT ACTACCTACGGCAAATTGTGCTTGGCTGCCAGTACCTGCACCGAAACCGAGTTATTCATCGAGACCTCAAGCTGG GCAACCTTTTCCTGAATGAAGATCTGGAGGTGAAAATAGGGGATTTTGGACTGGCAACCAAAGTCGAATATGACG GGGAGAGGAAGAAGACCCTGTGTGGGACTCCTAATTACATAGCTCCCGAGGTGCTGAGCAAGAAAGGGCACAGTT TCGAGGTGGATGTGTGGCCATTGGGTGTATCATGTATACCTTGTTAGTGGGCAAACCACCTTTTGAGACTTCTT GCCTAAAAGAGACCTACCTCCGGATCAAGAAGAATGAATACAGTATTCCCAAGCACATCAACCCCGTGGCCGCCT CCCGGGAAAAAGAAGAACCAGTGGTTCGAGAGACAGGTGAGGTGGTCGACTGCCACCTCAGTGACATGCTGCAGC GCATCCCCATCTTCTGGGTCAGCAAGTGGGTGGACTATTCGGACAAGTACGGCCTTGGGTATCAGCTCTGTGATA ACAGCGTGGGGGTGCTCTTCAATGACTCAACACGCCTCATCCTCTACAATGATGGTGACAGCCTGCAGTACATAG AGCGTGACGGCACTGAGTCCTACCTCACCGTGAGTTCCCCATCCCAACTCCTTGATGAAGAAGATCACCCTCCTTA AATATTTCCGCAATTACATGAGCGAGCACTTGCTGAAGGCAGGTGCCAACATCACGCCGCGCGAAGGTGATGAGC TCGCCCGGCTGCCCTACCTACGGACCTGGTTCCGCACCCGCAGCGCCATCATCCTGCACCTCAGCAACGGCAGCG TGCAGATCAACTTCTTCCAGGATCACCAAGCTCATCTTGTGCCCACTGATGGCAGCCGTGACCTACATCGACG AGAAGCGGGACTTCCGCACATACCGCCTGAGTCTCCTGGAGGAGTACGGCTGCTGCAAGGAGCTGGCCAGCCGGC AGCTGCCCTCCCGGACTGGTGCCCTCCTCACTCCCACCTGCATCTGGGGCCCATACTGGTTGGCTCCCGCG GTGCCATGTCTGCAGTGTGCCCCCCAGCCCCGGTGGCTGGGCAGAGCTGCATCATCCTTGCAGGTGGGGGTTGCT GTGTAAGTTATTTTTGTACATGTTCGGGTGTGGGTTCTACAGCCTTGTCCCCCTCCCCCTCAACCCCACCATATG **AATTGTACAGAATATTTCTATTGAATTCGGAACTGTCCTTTCCTTGGCTTTATGCACATTAAACAGATGTGAATA** ТТСААЛААЛААЛААЛААЛААЛААЛААЛААЛААЛААЛААЛАА

MSAAVTAGKLARAPADPGKAGVPGVAAPGAPAAAPPAKEIPEVLVDPRSRRRYVRGRFLGKGGFAKCFEISDADT KEVFAGKIVPKSLLLKPHQREKMSMEISIHRSLAHQHVVGFHGFFEDNDFVFVVLELCRRRSLLELHKRRKALTE PEARYYLRQIVLGCQYLHRNRVIHRDLKLGNLFLNEDLEVKIGDFGLATKVEYDGERKKTLCGTPNYIAPEVLSK KGHSFEVDVWSIGCIMYTLLVGKPPFETSCLKETYLRIKKNEYSIPKHINPVAASLIQKMLQTDPTARPTINELL NDEFFTSGYIPARLPITCLTIPPRFSIAPSSLDPSNRKPLTVLNKGLENPLPERPREKEEPVVRETGEVVDCHLS DMLQQLHSVNASKPSERGLVRQEEAEDPACIPIFWVSKWVDYSDKYGLGYQLCDNSVGVLFNDSTRLILYNDGDS LQYIERDGTESYLTVSSHPNSLMKKITLLKYFRNYMSEHLLKAGANITPREGDELARLPYLRTWFRTRSAILHL SNGSVQINFFQDHTKLILCPLMAAVTYIDEKRDFRTYRLSLLEEYGCCKELASRLRYARTMVDKLLSSRSASNRL KAS

GGCACGAGGAAAGACTGACCGACTGACTCTGACAGGATCCGGGGCTGAGGGAAGGAGGCGGCGGCC<u>ATG</u>GAGTTG AATGTAAGAGTTGGACGTCATTGTGTTGTGAAAAGTCGTAGTGTCATAAGGCCACCATTCAAGAAGTTCAGCAAA GGTGTTGCATTCTTTCCTTTACATATTGGAGACCATGTCTTTATTGAGGAAGATTGTGTGGTCAACGCAGCACAG ATTGGTTCCTATGTTCATGTTGGGAAGAACTGTGTGATTGGGCGCCGATGTGTTGAAAGACTGCTGCAAAATT CTTGACAACACAGTATTACCTCCAGAAACTGTGGTTCCACCATTCACTGTCTTCTCAGGCTGCCCAGGACTCTTC TCAGGGGAGCTCCCGGAGTGCACTCAGGAGCTGATGATTGACGTCACCAAGAGCTACTACCAGAAGTTTTTGCCC $\tt CTGACGCAAGTC{\color{blue}{\textbf{TAG}}} CATCTCTGCCTCATGTCTTGAATCTGCTTGAGCTCTAAGATGAACCTGGGGACAAAGTGA$ GCCAGTCAGCACCTACAAAGAGCTTTTGTGTCTTTGACATCTACCACCCTCCTCTTTTAAAAAATTTCTTTAGA TGCTGTGCTTACACCTTATCTATGAACAGTCACTTTGTACCATTATCTGTGGAACACAGAATCATCTGTTCCCAA CACTCCAGCCCTTGGTCCTGTGGATGGCTGGATCCCGCCTGAAACGGACCTGCAGAGCAGCAGCACCCTTCCGG TGTGGAGGCTATGTAGCTGGTGCGCTGCTCACGGCCATTCACTGCCCATGCTGAGCGCCTCTCACACAGGTAATG CCCAGCTTTTCTGCTGCTAACACATTTGGCCAGTTGTTGCAGTTGCTCATCATCTTGGGAAAGGTGTTTGTGACT ATGACCTTAGCTGTCCTAGGATAGTTAGTAAAAGACTTTTTAGCATTTTGACCTAGGGCCTTTGGCTTTCACTAA AAGTGGGGACCTCAGTATCCCAGATTGTAATTTTGCCAAGTGTTAGATTTGAGTCTCTCATGTGGATGCATTAGT CAGGTGGTTACTCCTTGCTTCAAGGTACTTACCTTATTTCATTGAAGACACCGCATTTGTGAACTCTTGCTTCCT GGCCTAGAACCATTCAGCCTACCCTGTATTTGCCATAAACTCCACAATTCACACCAAAATGTCTGTACTTAGAGC TAATTCGCATATATACAGGAAGGGCTCTTAGAATCAGTTTGTGGGCACAGAGCCTCAGGAGTAAATGAAGTTACT AGGGCTGTTCTTACCATCTCCTTCTGGCCAAATAGCACAACATTTCCTCGTTCTGCTCTGACCTCTTAGCTTAGA AGGAAGATTCAGAAGTGAGGGGCTAAGAAGGTTGTCCTTGCCTAATGCTCTGATCTGTAAGTGAATAGGGCAGAA CAGTTCAGCCTTGAGGTTAGAATTTAGCAGGAGCTATCCTGACTTAATATCCAGTTGTGGGGTTTGCAAAACAAA ACAGCTGTATGTAATCATTGCCACTAGTTCCATCTAGAACTCCTTTCTAGTTTGTTATTTTTAAAATGTTTATAC AGCTGGTCCAGGCCAGGCAAGGGGCTGGTCCATGATGTCATCAGGCACCCAGGTTCCTACTGTCTTGCCATGTGG CTAGTAAAAAGGAGTGGGGGAAGAATGGCCATTGGGAGACAACAAGCAGACTCAACCAGGCCTCTTTGTTGGCTT CCTTTCCTCCTGCTGCACATGAGCCTTCGCCTTGCATTTGGAGCCATGACAGCTGATAGCTCCAGACCTGCATCC TCCTAGCTTGGGGGCTCTGAATGAAAGGTTTCTTCCCTTCCAGTTCGAATTTGGAAACTCCCAAAGTTCTCAATG TTTATAATTATGTGCTGATGTATTCGAAGATGTGTTGACAGTCGTGAGTGTGTATCCTAGGAAAGGCGAGCTGGA CTCTGTCTCCATGGTGGCTCTCACCCCAGGGACCTAGGAACAGCCTGTCACCACACAATTACTTTTATAACCCTG TCCAGTTCACTTGGGGCAGAGGGAATTTAATGGCTCACGTAGCTGAAAAGGATGGGCTAGATTGGGCTTCAGGCT GCATCCCAGGACTCCAAACAGGGATCTGTCTCTTTGGCTCTCAGCTCTGCTTTCATTTGAGTTGGCTTTATTCTT GGGCTTCACAGTGTGGCCCCACAGCACCAGTTATTGATAAAAAGAGCTCCCCTTTGCTGACAGAACTGCTGGATT TGGTTCTCATTGGTCCAGACGAGGAAGGTATCCAGCCTCAAGTCATCATTGTGGCCAGGAAGATGGAATACACCA AATGGACAGGCCTGGCATGTACCCACAGAGACTGAGAGTTGGTGGTGGTGGTGGTGGCAGATGATATTACCT GAAGAAGGGACGAATGGGTGCTGGGCAGGACAAAGCATCAGCTGTCCAGTTCAGGCCTCTCCTCTTTCCCTGGTG TCTTCATTTTCCTCCGTCTCCCTGCTCTCCCTTACCCTCTGCCCAATCTCTCATTACTCCTGGTCTTGGGAGTTG AAAAAAAAAA

MELGELLYNKSEYIETASGNKVSRQSVLCGSQNIVLNGKTIVMNDCIIRGDLANVRVGRHCVVKSRSVIRPPFKK FSKGVAFFPLHIGDHVFIEEDCVVNAAQIGSYVHVGKNCVIGRRCVLKDCCKILDNTVLPPETVVPPFTVFSGCP GLFSGELPECTQELMIDVTKSYYQKFLPLTQV

WO 2004/030615 PCT/US2003/028547

4824/6881 FIGURE 4447

 ${\tt MASRVLSAYVSRLPAAFAPLPRVRMLAVARPLSTALCSAGTQTRLGTLQPALVLAQVPGRVTQLCRQYSDMPPLTLGIQDRVLYVLKLYDKIDPEKLSVNSHFMKDLGLDSLDQVEIIMAMEDEFGFEIPDIDAEKLMCPQEIVDYIADKKDVYE$

GTTTTTCCATGTTGCCCAGGCTGGTCTCAAACTCCTGGGCTCAAGCAATCCTTCTGTCTCAGCCTCCCCAAGTAC TGGGATTACAGGCATGTCCCACCATGCCCAGACTAATATTTACTTTTAATCAGACTAAGATAGGGTTACTACTTG AGTTGCTATGGCTCCAGCTGAAAGCCTGTGCAGTCATATCATGGGTAAACATTTGCTTTATGCTAAAAATATGGT GGACCTGGCATTACAGCTATTACAAATCTCCTAAGGTGTCTCAGGTAGTGTATTAGTTACTTTTCATACTGCTAT GAAGAAATACTCGAGACTGGGTAATTTATAAAGGAAAAGAGGTTTAAŢGTACTCACAGTTCCACAGGCTGGGGA GGCCTCAGAATCATGGTGGAAGGCAAAGAAGGAGCAAAGGTACGTCTTACATGGCTGCAGGAAAGAGAGCACGTG CAGGGAAACTGCCCTTTATAAAACCATCAGATTTAGTGAGATGTATTCACTATCACAAGAACAGTATGGGAAAAA GATGAAATTTGGGTGGGGACGCAGCCAAACCATATCGGGTAGCAACAACCTAGGGTCAGTTTTGCAGGTGGTAAA GCCATTTACCAAGATAGTTGTAGGTAAAGAAGGGCAGATTTATTAGAGAAATTATGAAAATATGTTGCAGTGGGC AGCTCAGCAGAGAGGGGCTACCTGCAAAGAGGCAGGGGCTGGAGGAAAGTTTTATAGGGTCCTGCTGAAGGGTG CTCCACATAAGGGTGTGGAAACTTCÄTTCATTCATATCTTCAACACAAATTGTAGGTAGCCTGTTTTTTAAAAAA TTTATTCAACAAATATTTAGTCCAAGCCACTGTTACTTATTACCCTCTCTACTTCTGTATGGACTTTTAACTATC ACTAATACTCACAGGGAATATATAGAGGTCTAGAAGAAAATATACAGGTCCTTAGAGGCTGCTCTGCCAACAAAAC GAATTTCCAGACTTCCTTTCTGCATTAACCAGTTTAACTAGATAGTAATGAAATATCCCTCTACTTTATGCTGTG ATAGTTTATTTATTTGAGAGTTTATTTATTTATTTTGAGACAACAGAGCGAGACTCCGTCTCA

TCTCTCTCGGCGTTTCCGCTGTCAGGGCCTGCGGTGTGACTCGCGGGCTCAGCTGGTCCGGCCGTAGCACCTCCG CGCCGTCGCCATGTCGCGGTTTTTCACCACCGGTTCGGACAGCGAGTCCGAGTCGTCCTTGTCCGGGGAGGAGCT CGTCACCAAACCTGTCGGAGGCAACTATGGCAAACAGCCATTGTTGCTGAGCGAGGATGAAGAAGATACCAAGAG AGTTGTCCGCAGTGCCAAGGACAAGAGGTTTGAGGAGCTGACCAACCTTATCCGGACCATCCGTAATGCCATGAA GATTCGTGATGTCACCAAGTGCCTGGAAGAGTTTGAGCTCCTGGGAAAAGCATATGGGAAGGCCAAAAGCATTGT GGACAAAGAAGGTGTCCCCCGGTTCTATATCCGCATCCTGGCTGACCTAGAGGACTATCTTAATGAGCTTTGGGA AGATAAGGAAGGAAGAAGAAGAACAAGAACAATGCCAAGGCTCTGAGCACCTTGCGTCAGAAGATCCGAAA ATACAACCGTGATTTCGAGTCCCATATCACAAGCTACAAGCAGAACCCCGAGCAGTCTGCGGATGAAGATGCTGA GAAAAATGAGGAGGATTCAGAAGGCTCTTCAGATGAGGATGAGGATGAGGACGGAGTCAGTGCTGCAACTTTCTT AGAAGATTCCGAAGATGATGAAGACTGGGACACAGGTTCCACATCTTCCGATTCCGACTCAGAGGAGGAAGAAGG GAAACGGGAGGACAAAGCTAAGAAGAAGCACGACAGGAAATCCAAGCGCCTGGATGAGGAGGAGGAGGACAATGA AGGCGGGGAGTGGGAAAGGGTCCGGGGCGGAGTGCCGTTGGTTAAGGAGAAGCCAAAAATGTTTGCCAAGGGAAC TGAGATCACCCATGCTGTTGTTATCAAGAAACTGAATGAGATCCTACAGGCACGAGGCAAGAAGGGAACTGATCG TGCTGCCCAGATTGAGCTGCTGCAACTGCTGGTTCAGATTGCAGCGGAAAACAACCTGGGAGAGGGCGTCATTGT CAAGATCAAGTTCAATATCATCGCCTCTCTCTATGACTACAACCCCAACCTGGCAACCTACATGAAGCCAGAGAT GTGGGGGAAGTGCCTGGACTGCATCAATGAGCTGATGGATATCCTGTTTGCAAATCCCAACATTTTTGTTGGAGA GAATATTCTGGAAGAGAGTGAGAACCTGCACAACGCTGACCAGCCACTGCGTGTCCGTGGCTGCATCCTAACTCT GGTGGAACGAATGGATGAAGAATTTACCAAAATAATGCAAAATACTGACCCTCACTCCCAAGAGTACGTGGAGCA CTTGAAGGATGAGGCCCAGGTGTGCCATCATCGAGCGTGTGCAGCGCTACCTGGAGGAGAAGGGCACTACCGA GGAGGTCTGCCGCATCTACCTGCTGCGCATCCTGCACACCTACTACAAGTTTGATTACAAGGCCCATCAGCGACA GCTGACCCCGCCTGAGGGCTCCTCAAAGTCTGAGCAAGACCAGGCAGAAAATGAGGGCGAGGACTCGGCTGTGTT GATGGAGAGACTGTGCAAGTACATCTACGCCAAGGACCGCACAGACCGGATCCGCACATGTGCCATCCTCTGCCA CATCTACCACCATGCTCTGCACTCGCGCTGGTACCAGGCCCGCGACCTCATGCTCATGAGCCACTTGCAGGACAA CATTCAGCATGCAGACCCGCCAGTGCAGATCCTTTACAACCGCACCATGGTGCAGCTGGGCATCTGTGCCTTCCG CCAAGGCCTGACCAAGGACGCACACACGCCCTGCTGGACATCCAGTCGAGTGGCCGAGCCAAGGAGCTTCTGGG ${\tt CCAGGGCCTGCTGCGCAGCCTGCAGGAGCGCAACCAGGAGCAGGAGAAGGTGGAGCGGCGCCGTCAGGTCCCC}$ CTTCCACCTGCACATCAACCTGGAGCTGCTGGAGTGTCTACCTGGTGTCTGCCATGCTCCTGGAGATCCCCTA GCGACAGCCCCTGCTGGGTCCCCTGAGTCCATGCGGGAACATGTGGTCGCTGCCTCCAAGGCCATGAAGATGGG TGACTGGAAGACCTGTCACAGTTTTATCATCAATGAGAAGATGAATGGGAAAGTGTGGGACCTTTTCCCCGAGGC TGTCTATGACTCCATCAGCATGGAGACGCTGTCAGACATGTTTGAGCTGGATCTGCCCCACTGTGCACTCCATCAT GGTGTTTGACCACAAGCAGGGCACCTACGGGGGCTACTTCCGAGACCAGAAGGACGGCTACCGCAAAAACGAGGG $\tt CTACATGCGCCGCGGTGGCTACCGCCAGCAGCAGTCTCAGACGGCCTAC{\color{red}{\textbf{TGA}}} GCTCTCCACTCTGTTTCCCGCCT$ GGGCCATCCAACCTTGAAGTCCTAAACCACACCTCAGTCACTAAAGGTCTGTTTAAAGTTGTTCTGGTTGATTGC AGGCTCAGATGAAGAGGTGAATTGAAC

MSRFFTTGSDSESESSLSGEELVTKPVGGNYGKQPLLLSEDEEDTKRVVRSAKDKRFEELTNLIRTIRNAMKIRD VTKCLEEFELLGKAYGKAKSIVDKEGVPRFYIRILADLEDYLNELWEDKEGKKKMNKNNAKALSTLRQKIRKYNR DFESHITSYKQNPEQSADEDAEKNEEDSEGSSDEDEDEDGVSAATFLKKKSEAPSGESRKFLKKMDDEDEDSEDS EDDEDWDTGSTSSDSDSEEEEGKQTALASRFLKKAPTTDEDKKAAEKKREDKAKKHDRKSKRLDEEEEDNEGGE WERVRGGVPLVKEKPKMFAKGTEITHAVVIKKLNEILQARGKKGTDRAAQIELLQLLVQIAAENNLGEGVIVKIK FNIIASLYDYNPNLATYMKPEMWGKCLDCINELMDILFANPNIFVGENILEESENLHNADQPLRVRGCILTLVER MDEEFTKIMQNTDPHSQEYVEHLKDEAQVCAIIERVQRYLEEKGTTEEVCRIYLLRILHTYYKFDYKAHQRQLTP PEGSSKSEQDQAENEGEDSAVLMERLCKYIYAKDRTDRIRTCAILCHIYHHALHSRWYQARDLMLMSHLQDNIQH ADPPVQILYNRTMVQLGICAFRQGLTKDAHNALLDIQSSGRAKELLGQGLLLRSLQERNQEQEKVERRRQVPFHL HINLELLECVYLVSAMLLEIPYMAAHESDARRRMISKQFHHQLRVGERQPLLGPPESMREHVVAASKAMKMGDWK TCHSFIINEKMNGKVWDLFPEADKVRTMLVRKIQEESLRTYLFTYSSVYDSISMETLSDMFELDLPTVHSIISKM IINEELMASLDQPTQTVVMHRTEPTAQQNLALQLAEKLGSLVENNERVFDHKQGTYGGYFRDQKDGYRKNEGYMR RGGYRQQQSQTAY

GTGCATGCCGTGGGTCTGACGGCTTGAGTAGCGCTAGGGAGAATCCCTGCAGGTAATATTTGACTTTTGCTTCAT ATTAATCTGAGTGGAAAATAAAAGGGCCCTCTTCTCCTCTCGCTTCCCTGCCGGGCAGGCGCCA**TG**GCGGAAGCC TCGGCGACGGCGCCTGCGGAGAGGCGATGGCAGCGGCGGAAGGCTCCTCGGGCCCGGCGGGCTTGACTCTGGGC TCCGGCATGAAGGCTGAGGCTGCAAGGTCCCGCAGGAGGCGCTGCTCAAACTCCTGGCGGGACTGACGCGGCCG GACGTGCGGCCCCGCTGGGCCGGGCCTGGTGGGTGGCCAGGAAGAGGCGTCCCAGGAAGCCGGCCTGCCGGCA GGAGCGGGCCCCACCTTTCCAGCCCTGGGCATCGGGATGGACTCCTGCGTCATCCCCCTGAGGCACGGG GGCCTGTCACTGGTGCAGACCACGGACTTCTTTTACCCCTTGGTAGAAGATCCCTACATGATGGGGCGCATAGCT TGTGCCAACGTGCTGAGTGACCTCTACGCCATGGGGATTACTGAGTGTGACAACATGTTGATGTTACTCAGCGTC AGCCAGAGTATGAGTGAGGAGGAACGCGAAAAGGTAACGCCACTCATGGTCAAAGGCTTTCGGGATGCGGCTGAG GAAGGAGGGACGGCAGTGACCGGTGGCCAAACGGTGGTCAACCCTTGGATTATAATCGGTGGAGTTGCCACTGTA GTATGCCAACCAAATGAGTTCATAATGCCGGACAGCGCCGTCGTTGGGGACGTGCTGGTGTAACCAAACCGTTA GGAACCCAGGTTGCTGTCAATGCCCACCAATGGCTGGATAATCCTGAAAGATGGAATAAAGTAAAGATGGTGGTC TCCAGAGAGAGGTGGAGCTGGCCTATCAGGAAGCCATGTTCAATATGGCTACCCTCAACAGAACTGCTGCAGGT TTAATGCACACATTTAATGCCCATGCGGCCACAGATATCACAGGCTTTGGCATTCTAGGACACTCCCAGAACCTT GCAAAACAACAAGAAATGAAGTGTCCTTTGTTATTCATAATCTGCCAATAATTGCCAAGATGGCTGCCGTCAGC AAGGCCAGTGGACGGTTTGGGCTTCTTCAAGGAACCTCAGCTGAAACCTCTGGGGGATTACTGATTTGTCTGCCA AGAGAACAGGCGGCTCGCTTTTGTTCTGAAATCAAATCCTCCAAGTACGGAGAGGGTCACCAAGCGTGGATCGTT GGCATTGTGGAAAAGGGAAACCGAACGGCCCGGATCATTGACAAGCCGCGAGTTATTGAAGTCCTGCCTCGTGGG GCCACAGCTGCTGTTCTTGCTCCTGACAGTTCAAATGCCTCCTCTGAGCCTAGCTCG<u>TGA</u>GATGAAAGAACAGAA GTTGTTTGGACCTTAGAGCCATTGTCCACAATCACGGATGGTTCTCAAGAGTTGATTGTAAGAAATTTCCAAAGA AGGCTGCCTGCATAGTGGTTCCGGCTGCCCTTTCTAGGTGATTGGAATCAGCCCATCTAAAGCAGTCTTTATATG CATTCCGAGGCCAGAGTAACATTTTGAACTTTGGGGGGGATATTTGTTCATCACTTGGGTAGAAGAGGAGCAAAAA TACTTCTGTTTTCTCTTGCCAAAGTAAGATGAAGCTATTCCAGGTTGAGGGATTTTTCTTTGCACGGGGTTGATT CAAATGAGTTTTGGACCAATATTGTTGATAAATCTAAATTGTTAAGAGAGATCTTATAATGCAACATCAAATTCT TTATTCAATTTTACTGAAGTACTGGCTCTTTCCTGCTCTGGACAAGAATTGAGCAACTTGTCTGATGACTGGGAA AGGAGGACCTGCAACCATCTGACTTGGTCTCTGTTAATGACGTCTCTCCCTCTAAACCCCCATTAAGGACTGGGAG AGGCAGAGCCAGAGCCTCAGAGCCTCAGTGGTCATTAAGATGTTAAGTCTTTTGCGGCAGATTCCTGGTGA

GGSLGDGRLRRGDGSGGRLLGPGGLDSGPELLELPALRAPGVGPQPELAADGLLRHEGLRGCKVPQEALLKLLAG LTRPDVRPPLGRGLVGGQEEASQEAGLPAGAGPSPTFPALGIGMDSCVIPLRHGGLSLVQTTDFFYPLVEDPYMM GRIACANVLSDLYAMGITECDNMLMLLSVSQSMSEEEREKVTPLMVKGFRDAAEEGGTAVTGGQTVVNPWIIIGG VATVVCQPNEFIMPDSAVVGDVLVLTKPLGTQVAVNAHQWLDNPERWNKVKMVVSREEVELAYQEAMFNMATLNR TAAGLMHTFNAHAATDITGFGILGHSQNLAKQQRNEVSFVIHNLPIIAKMAAVSKASGRFGLLQGTSAETSGGLLICLPREQAARFCSEIKSSKYGEGHQAWIVGIVEKGNRTARIIDKPRVIEVLPRGATAAVLAPDSSNASSEPSS

4830/6881 FIGURE 4453A

CCTCTTTCACCCTGTCTAGGTTGCCAGCAAATCCCACGGGCCTCCTGACGCTGCCCCTGGGGCCACAGGTCCCTC GAGTGCTGGAAGGATGAAGGATTCCTGCATCACTGTGATGGCCATGGCGCTGCTGTCTGGGTTCTTTTTCTTCGC ATACCGCGTCCTGCAGGTCGGAAACGGGGTCATCGTGGGAGCTCCAGGGGAGGGGAACAGCACAGGAAGCCTCTA TCAGTGCCAGTCGGGCACAGGACACTGCCTGCCAGTCACCCTGAGAGGTTCCAACTATACCTCCAAGTACTTGGG AATGACCTTGGCAACAGACCCCACAGATGGAAGCATTTTGGCCTGTGACCCTGGGCTGTCTCGAACGTGTGACCA GAACACCTATCTGAGTGGCCTGTGTTACCTCTTCCGCCAGAATCTGCAGGGTCCCATGCTGCAGGGGCGCCCTGG TTTTCAGGAATGTATCAAGGGCAACGTAGACCTGGTATTTCTGTTTGATGGTTCGATGAGCTTGCAGCCAGATGA ATTTCAGAAAATTCTGGACTTCATGAAGGATGTGATGAAGAAACTCAGCAACACTTCGTACCAGTTTGCTGCTGT TCAGTTTTCCACAAGCTACAAAACAGAATTTGATTTCTCAGATTATGTTAAATGGAAGGACCCTGATGCTCTGCT GAAGCATGTAAAGCACATGTTGCTGTTGACCAATACCTTTGGTGCCATCAATTATGTCGCGACAGAGGTGTTCCG GGAGGAGCTGGGGGCCCGGCCAGATGCCACCAAAGTGCTTATCATCATCACGGATGGGGAGGCCACTGACAGTGG ${\tt CAACATCGATGCGGCCAAAGACATCATCCGCTACATCATCGGGATTGGAAAGCATTTTCAGACCAAGGAGAGTCA}$ ${\tt CATGGAGCTGTCCTCCAGCGGCATCAGTGCTGACCTCAGCAGGGCCATGCAGTCGTGGGGGCAGTAGGAGCCAA}$ GGACTGGGCTGGGGGCTTTCTTGACCTGAAGGCAGACCTGCAGGATGACACATTTATTGGGAATGAACCATTGAC ACCAGAAGTGAGAGCAGGCTATTTGGGTTACACCGTGACCTGGCTGCCCTCCCGGCAAAAGACTTCGTTGCTGGC CCAGGTCCAGACAATCCATGGGACCCAGATTGGCTCTTATTTCGGTGGGGAGCTGTGTGGCGTCGACGTGGACCA AGATGGGGAGACAGAGCTGCTGATTGGTGCCCCACTGTTCTATGGGGAGCAGAGAGGAGGCCGGGTGTTTAT CTACCAGAGAAGACAGTTGGGGTTTGAAGAAGTCTCAGAGCTGCAGGGGGACCCCGGCTACCCACTCGGGCGGTT GGAGCAGGGGGCTGTGTACATCTTCAATGGGAGGCACGGGGGGCTTAGTCCCCAGCCAAGTCAGCGGATAGAAGG GGCAGATGTGGCTGTGGGGGCCTGAGAGCCAGATGATCGTGCTGAGCTCCCGGCCCGTGGTGGATATGGTCACCCT GATGTCCTTCTCCCAGCTGAGATCCCAGTGCATGAAGTGGAGTGCTCCTATTCAACCAGTAACAAGATGAAAGA AGGAGTTAATATCACAATCTGTTTCCAGATCAAGTCTCTCATCCCCCAGTTCCAAGGCCGCCTGGTTGCCAATCT AAGGAATATAGCTGTCACCACCAGCATGTCATGCACTGACTTCTCATTTCATTTCCCGGTATGTGTTCAAGACCT CATCTCCCCCATCAATGTTTCCCTGAATTTTCTCTTTTGGGAGGAGGAAGGGACACCGAGGGACCAAAGGGCCCA GGGCAAGGACATACCGCCCATCCTGAGACCCTCCCTGCACTCGGAAACCTGGGAGATCCCTTTTGAGAAGAACTG TGGGGAGGACAAGAGTGTGAGGCAAACTTGAGAGTGTCCTTCTCTCCTGCAAGATCCAGAGCCCTGCGTCTAAC TGCTTTTGCCAGCCTCTCTGTGGAGCTGAGCCTGAGTAACTTGGAAGAAGATGCTTACTGGGTCCAGCTGGACCT GCACTTCCCCCGGGACTCTCCTTCCGCAAGGTGGAGATGCTGAAGCCCCATAGCCAGATACCTGTGAGCTGCGA GGAGCTTCCTGAAGAGTCCAGGCTTCTGTCCAGGGCATTATCTTGCAATGTGAGCTCTCCCATCTTCAAAGCAGG CCACTCGGTTGCTCTGCAGATGATGTTTAATACACTGGTAAACAGCTCCTGGGGGGACTCGGTTGAATTGCACGC CAATGTGACCTGTAACAATGAGGACTCAGACCTCCTGGAGGACAACTCAGCCACTACCATCATCCCCATCCTGTA CCCCATCAACATCCTCATCCAGGACCAAGAAGACTCCACACTCTATGTCAGTTTCACCCCCAAAGGCCCCAAAGAT TGTGGTTGGGGTGCCACAGCCTCCCAGCGAGGGGCCCATCACACACCAGTGGAGCGTGCAGATGGAGCCTCCCGT GCCCTGCCACTATGAGGATCTGGAGAGGCTCCCGGATGCAGCTGAGCCTTGTCTCCCCGGAGCCCTGTTCCGCTG $\verb|CCCTGTTGTCTTCAGGCAGGAGATCCTCGTCCAAGTGATCGGGGACTCTGGAGCTGGTGGGAGAGATCGAGGCCTC| \\$ TTCCATGTTCAGCCTCTGCAGCTCCCTCTCCATCTCCTTCAACAGCAGCATTTCCACCTCTATGGCAGCAA CGCCTCCCTGGCCCAGGTTGTCATGAAGGTTGACGTGGTGTATGAGAAGCAGATGCTCTACCTCTACGTGCTGAG GAAGGAGAAGATGGAGGCTGGCAGAGGTGTCCCGAATGGAATCCCTGCAGAAGACTCTGAGCAGCTGGCATCTGG GCAAGAGGCTGGGGATCCCGGCTGCCTGAAGCCCCTCCATGAGAAGGACTCTGAGAGTGGTGGTGGCAAGGACTG

4831/6881 FIGURE 4453R

AGTCCAGGCCTGTGAGGTGCAGAGTGCCCAGAACTGGACTCAGGATGCCCAGGGCCACTCTGCCTCTGCCT TCTGCCGTGTGCCCTCGGGCGAGTCACTGCCTCTCCCTGGCCCTCAGTTTCCCTATCTCGAACATGGAACTCATT ${\tt CCTGCCTGTCTCTTTGCAGGCTCATAGGGAAGACCTGCTGAGGGACCAGCCAAGAGGGCTGCAAAAGTGAGGGC}$ TTGTCATTACCAGACGGTTCACCAGCCTCTCTTGGTTTCCTTCGTTGGAAGAATGTCTGATCTAAATGTGGAG AAACTGTAGTCTCAGGACCTAGGGATGTTCTGGCCCTCACCCCTGCCCTGGGATGTCCACAGATGCCTCCACCCC ${\tt CCAGAACCTGTCCTTGCACACTCCCCTGCACTGGAGTCCAGTCTCTTCTGCTGGCAGAAGCAAATGTGACCTGT}$ GTCACTACGTGACTGTGGCACACGCCTTGTTCTTGGCCAAAGACCAAATTCCTTGGCATGCCTTCCAGCACCCTG CAAAATGAGACCCTCGTGGCCTTCCCCAGCCTCTTCTAGAGCCGTGATGCCTCCCTGTTGAAGCTCTGGTGACAC CAGCCTTTCTCCCAGGCCAGGCTCCTTCCTGTCTTCCTGCATTCACCCAGACAGCTCCCTCTGCCTGAACCTTCC ACTTCCACCAGCCTGCACTACTCCCTCAAAGCACACGTCATGTTTCTTCATCCGGCAGCCTGGATGTTTTTTCCC TGTTTAATGATTGACGTACTTAGCAGCTATCTCTCAGTGAACTGTGAGGGTAAAGGCTATACTTGTCTTGTTCAC $\tt CTTGGGATGATGCCTCATGATATGTCAGGGGCGTGGGACATCTAGTAGGTGCTTGACATAATTTCACTGAATTAAT$ GACAGAGCCAGTGGGAAGATACAGAAAAAGAGGGGCTGGGCTGGGCGGGTGGTTCACGCCTGTAATCCCAGCAC TTTGGGAGGCCAAGGAGGTGGATCACCTGAGGTCAGGAGTTAGAGGCCAGCCTGGCGAAACCCCATCTCTACTA AAAATACAAAATCCAGGCGTGGTGGCACACACCTGTAGTCCCAGCTACTCAGGAGGTTGAGGTAGGAGAATTGCT TGAACCTGGGAGGTGGAGGTTGCAGTGAGCCAAGATTGCGCCATTGCACTCCAGCCTGGGCAACACAGCGAGACT CCGTCTCAAGGAAAAAATAAAAATAAAAAGCGGGCACGGGCCCGTGACATCCCCACCCTTGGAGGCTGTCTTCTC ${\tt AGGCTCTGCCCTAGCTCCACACCCTCTCCCAGGACCCATCACGCCTGTGCAGTGGCCCCCACAGAAAGAC}$ TGAGCTCAAGGTGGGAACCACGTCTGCTAACTTGGAGCCCCAGTGCCAAGCACAGTGCCTGCATGTATTTATCCA ATAAATGTGAAATTCTGTCC

CGCGCTGGAGAGGCGCGGGGTCAAGACGTCCGGCCTCGGGGGCCCGGGCTGGGCCGCCGAGTCCCCTGGGCGGCG $\tt CGCCGCTGCACTGGGAGCCCGCGGGGATGGAGCGGGAGGCGTTGCCGTGGGGCCCTCGAGCCCCAGGATGTGCAGA$ AGCAAGAAGGCAGTGGGGACTATGAAGTCGAAGAGATACCATTTGGGCTTGAACCCCAGAGCCCTGGGTTTGAGC CACAAAGCCCAGAGTTTGAACCCCAAAGCCCCAGATTTGAGCCTGAAAGCCCGGGGTTTGAGTCCCGAAGCCCTG GGCTTGTGCCCCCAAGCCCTGAGTTTGCACCCAGAAGCCCTGAATCAGATTCTCAGAGCCCTGAGTTTGAATCCC AGAGCCCTAGGTATGAACCCCAAAGCCCTGGCTATGAACCTCGGAGCCCCGGGTATGAACCCCGGAGCCCTGGCT ATGAATCTGAGAGCTCTAGATATGAATCCCAGAACACTGAGCTCAAAACCCCAAAGCCCAGAATTTGAAGCTCAAA GTTCCAAATTCCAGGAAGGTGCGGAGATGCTTCTGAACCCCGACGAAAAGAGTCCTTTGAATATCTCCGTAGGAG TTCACCCCTGGACTCCTTCACTCAGGGGTTTGGGGAGCAGCCCACAGGGGACCTGCCCATAGGGCCACCTTTTG AGATGCCCACAGGGGCCCTGCTGTCTACACCGCAGTTTGAGATGCTTCAGAATCCCCTGGGTCTCACAGGAGCCC TTCGAGGTCCAGGTCGGCGGGGTGGCCAGGGGTGGGCAGGGCCCTCGGCCTAACATCTGCGGCATCTGCG GGAAGAGCTTCGGGCGGGGCTCCACCCTGATCCAGCACCAGCGCATCCACACCGGTGAGAAGCCCTACAAATGTG AGGTCTGCAGCAAGGCCTTCTCCCAGAGCTCTGACCTCATCAAACACCAGCGCACCCACACTGGCGAGCGGCCCT AGAAGCCCTACAAGTGCCCACATTGTGGCAAGGCCTTCGGCGACAGCTCCTACCTCCTGCGACACCAGCGCACCC ACAGCCACGAGCGGCCCTACAGCTGCACCGAGTGCGGCAAGTGCTATAGCCAGAACTCGTCCCTGCGCAGCCATC AGAGGGTGCACACCGGTCAGAGGCCCTTCAGCTGTGGCATCTGCGGCAAGAGCTTCTCCCCAGCGGTCGGCCCTTA TCCCCCATGCCCGCAGCCACGCCCGGGAGAAGCCCTTCAAGTGCCCTGAGTGCGGCAAGCGCTTTGGCCAGAGCT CGGTGCTGGCCATCCACGCCCGCACCCACCTGCCAGGCCGCACCTACAGCTGCCCCGACTGCGGCAAGACCTTCA ATCGCTCCTCCACTCTCATCCAGCACCAGCGCTCCCACACGGGCGAGCGGCCCTACAGGTGCGCCGTGTGCGGCA AGGGCTTCTGCCGCTCCTCCACGCTTCTGCAGCATCACCGGGTCCACAGTGGCGAGCGGCCTTACAAGTGCGATG ACTGCGGAAAGGCCTTCTCCCAGAGCTCCGACCTCATCCGCCACCAGCGGACCCACGCGGCGGGCCGGCGCTGAC TAGTGGAGAAGCCGCAGGAGAATGGAGGAGCTGAGGATGCTGGAAGAAGAAGAACCAGGGTGGAGGAAGTGACATG CCCTGGAGACTTGTGGGAAGTGGGTTGGAGGGAGGCCAGGCCGGCAGCGGGAGGCCCTGGGAGAAATGGAGAGA GAGGGCAGGGGATTACCTAATTAGAGTGGGTTAGCTTAGATTGGTAGCTGCTGAAACTCTCGTTGAGTCAGGAGC GGGTAAAAGGTAGGTGGGGTGGGGAGTGGGGCCCCGGGGTGGGGCCTCTGCGTGCAAACCCCAGCCTCC

MRSPEGYLRGNMSENEEEEISQQEGSGDYEVEEIPFGLEPQSPGFEPQSPEFEPQSPRFEPESPGFESRSPGLVP PSPEFAPRSPESDSQSPEFESQSPRYEPQSPGYEPRSPGYEPRSPGYESESSRYESQNTELKTQSPEFEAQSSKF QEGAEMLLNPDEKSPLNISVGVHPLDSFTQGFGEQPTGDLPIGPPFEMPTGALLSTPQFEMLQNPLGLTGALRGP GRRGGRARGGQGPRPNICGICGKSFGRGSTLIQHQRIHTGEKPYKCEVCSKAFSQSSDLIKHQRTHTGERPYKCP RCGKAFADSSYLLRHQRTHSGQKPYKCPHCGKAFGDSSYLLRHQRTHSHERPYSCTECGKCYSQNSSLRSHQRVH TGQRPFSCGICGKSFSQRSALIPHARSHAREKPFKCPECGKRFGQSSVLAIHARTHLPGRTYSCPDCGKTFNRSS TLIQHQRSHTGERPYRCAVCGKGFCRSSTLLQHHRVHSGERPYKCDDCGKAFSQSSDLIRHQRTHAAGRR

4834/6881 FIGURE 4456

GGCACGAGGCTTTCTCGGGCGCAGGAGGTTCCGCAGGCCAGGCCAGGCCAGGCGAGGCAGCCGATCCGTCGTCG $\tt GGGTTGACAGTTACC \underline{ATG} GCGCCGCCTCTGGCCCCGCTCCCCCGGGACCCAAACGGGGCCGGACCCGAGTGG$ AGGGAGCCGGGGGCTGTGAGCTTCGCGGACGTGGCCGTGTACTTCTGCCGGGAGGAGTGGGGCTGCTTGCGGCCA GCGCAGAGGGCCCTGTACCGGGACGTGATGCGGGAGACCTACGGCCACCTGAGCGCTCTCGGAATCGGAGGCAAC AAGCCAGCTCTCATCTCCTGGGTGGAGGAGGAGGCCGAACTGTGGGGTCCGGCTGCCCAGGATCCGGAGGTGGCG AAATGTCAGACACAAACGGACCCAGCAGATTCCAGAAACAAGAAAAAGGAAAGACAAAGGGAAGGGACGGGACGGAGCC GCTGACCAGCGTCATGGCTGCTACGTGTGCGGGAAGAGCTTTGCCTGGCGCTCCACACTGGTGGAGCACGTCTAC AGTCACACTGGCGAGAAGCCCTTCCACTGCACTGACTGCGCCAAGGGCTTCGGCCACGCTTCCTCCCTGAGCAAA $\tt CACCGGGCCATCCATCGTGGGGGGCCCCACCGCTGTCTGGAGTGTGGCCGGGCCTTCACGCAGCGCTCGGCG$ CTGACTTCGCACCTGCGCGTCCACACCGGCGAGAAACCCTATGGCTGCGCCGACTGTGGCCGCCGCTTCAGCCAG AGCTCTGCCCTCTACCAGCACCGGCGCGTGCACAGCGGGGGAGACCCCCTTCCCCTGCCCGGACTGTGGCCGCGCC TTCGCCTACCCCTCGGACCTGCGCGCCACGTGCGCACCCACACCGGCGAGAAGCCCTACCCGTGCCCGGACTGC GGGCGCTGCTTCCGCCAGAGCTCGGAGATGGCAGTCCACAGGGCGCACCCACAGCGGCGAGAAGCCCTACCCCTGC CCGCAGTGCGGCCGCCTTTGGCCAGAAGTCAGCCGTGGCCAAACACCAGTGGGTTCATCGGCCCGGGGCCGGG GGCCACAGGGGCCGGGTCGCCGGGCGTCTGTCTGTGACCCTGACCCCTGGCCACGGAGACCTGGACCCGCCGTG GGCTTCCAGCTGTACCCGGAGATATTCCAGGAGTGTGGGTGACGCCCTTAAAAGTGACTATCTAGACATTACGGG AGGCCCGAGATGGGCTCAGGGGCCCGAACCTCTGCGGCGGCCTGCAGGAGGTCCCAGAATCTAGGGCAAGAGCT GGCCCTGGGGTGCGGACAGTCTGATCTTGGGCCCTTAGCAGCCTCCTCTGCCAGCACCTTGCTCCCCACTGCCCA GGGCTCTCCAAGGCCCCTCTACTGAGGCAGGCTGAGTTGAGAACCCCCAGACCTACATAAGGGGAACCAAAAG CTGTTTCTCAGCCCAGAGGTGCTAAGAGGACTGAGGTAGAGGAGAACCTTGTTTTACCCATTGTCTTTTTAAATT TTTCTGAGACAGCTTCCTGCTCTCTCACCCAGGCTGGAGTGCAGTGGTGTGAACAGGGCTAACTGCAGCCTCAAC CTGCAGTGCTCAAGGAATCCTCTCCCATCAGCCTTCCAAATATCTGAGACTACAGGCGGGCAACACTACGGCCAG CTAATTTTTAAATTTTACATAGAGATGAGGTTCTCACTGTTGTCCAGGCTGGTCTCAAACTCCTTGGCTGAAGTG ATCCTGTCGTCTCGGCTTCCGCAAGTGCTGGGATTACAGGCGTGAGCTACCACCATGCCTGGCTTCCATTGTCTT TGTGTGTGTGTGTGTGTGATGGGGTTTTGCTCTTGTTGCCCAGGCTGGAGTGCAATAGCGCAATCTCAGCTCACT ACCTCCATTGTCTTTTTACTGCCCAAGTTAAAATCCTGTGACTGTACTGGATCTGGCCTGCGGTTGTCATATT TATTGATCTGAGTCCAGGCAGTGTTTTTAAGTGATATGAGTTAGTGAAAATTGAAAAGGATATTTTACAACC AAATACAGGTTTTCTGGTGTCTTTTGAAAAATCCAAAGATTTGGCAACTCGACCTAGGCTCCGACAAAACCACAG TTGTTGGGAGCTGAGCCGGAGCCAGAACTCACAATTCACCGTGGCCCGGCCACCCATCCCCACCACTCCCGTGGG AAGAAGAAAGGGAAGTATTTCTTAGACCCATGTCTCTGTCCAAATAGGCCTTTCCATCTGGCATTTCCCGCTCAT TTATATGACTTGCTGAGTTCCTATGGTCATTTGAGTTTGCAAACAGTGGTCTGTAGCACTCAGGTTTTCTGGAGT

MAPPLAPLPPRDPNGAGPEWREPGAVSFADVAVYFCREEWGCLRPAQRALYRDVMRETYGHLSALGIGGNKPALI SWVEEEAELWGPAAQDPEVAKCQTQTDPADSRNKKKERQREGTGALEKPDPVAAGSPGLKSPQAPSAGPPYGWEQ LSKAPHRGRPSLCAHPPVPRADQRHGCYVCGKSFAWRSTLVEHVYSHTGEKPFHCTDCGKGFGHASSLSKHRAIH RGERPHRCLECGRAFTQRSALTSHLRVHTGEKPYGCADCGRRFSQSSALYQHRRVHSGETPFPCPDCGRAFAYPS DLRRHVRTHTGEKPYPCPDCGRCFRQSSEMAVHRRTHSGEKPYPCPQCGRRFGQKSAVAKHQWVHRPGAGGHRGR VAGRLSVTLTPGHGDLDPPVGFQLYPEIFQECG

4836/6881 FIGURE 4458

CTGGGGATCTACGCTGAGTTCGGAGATGCTCCAGCTCGGGCCCCCTGTCTGAGCGGAGCTTTGCGGCGCTGAA GCTTACAGGGGAAGGAAAAGCCTCGCCCGGCGTCTGATTGGCGGAACCGCGCTGCCGCAGCCTGGGATTCCCCAG ${\tt GGACCCCCGGGAGCCGCGTCTCCC} \underline{{\tt ATG}} {\tt GACTTGCCCGGGGGACTCCAGCCCGCCTGGCCAGCCGCGTCTGTG}$ CCGCCAGCCTCTGACTCGAGCATTATGGGGAGCCAGGAGCCCGAAACGGCCGAGGCTGCAGCTCCCGGGGGCCCC TTCTCCCCTGGAAAAGGCCTCTCGGCGGGTCCTGGCCGTGGTGCTAGAAGATGTCATGGCTGTTCACATGGTCCC CGTGGTGCCCTCAAAGCAGACCTCCATACCACAGCACCACAGCTACCATCAGGATCCTGTCCACAGGCAGCCGCC TGCCTCGCCACCCCGGCAGGCCGGGTGGTCCTCGCAGGCCAGGCCTCCCGACCCTCTGTGTTTGTGTCGCGAGCC CTTGAGCCGCATCCACCGGACCTCTTCCACCCTGAGGCGGCGATCAAGGACAACCCCTGGCCCAGAGGAGGGCCC TTCACAAAAGGTGGACCGGGCCCCCAGCCCACCCTGGTGGTGATGCTGGAAGACATCGCCAGTCCTAGACCCCC CGCTGAGGGCTTCATTGATGAGACCCCCAACTTCATCATCCCAGCACAAAGAGCTGAGCCCATGAGGATAGTTCG CCCACCAACAGCCCCAGATCCTGCTCTGGAGCTCCCATCCACCCCACCACCGTCCAGCCTTTTACGCCCCCGCCT CAGTCCCTGGGGCTTGGCCCCGCTCTTCCGTTCCGTCCGCTCCAAGCTGGAGAGCTTTGCTGACATCTTCCTCAC GCCCAACAAAACCCCACAGCCCCCACCCCGTCCCCCCAATGAAGCTGGAGTTGAAGATCGCCATCTCAGAGGC CGAGCAGTCTGGGGCTGCTGAGGGCACTGCGTCTGTCAGCCCCCGGCCCCCAATCCGCCAGTGGCGAACTCAGGA $\tt CCACAATACCCCAGCACTTCTCCCTAAGCCCTCTCTGGGGCCGAAGCTACTCCTGCCCTGATCTGGGGCCCCCTGG$ TGGGGAAATGGCCCGAGCCCCGCCACCCCCTCGGCCCTGTCTCCGGAAAGAGGTCTTCCCTCTCGGAGGAGTGGG GGGTTCAACCAAAGGGAAGGAGCCAAGAGCCTCAAAGGACCAGGTGCTTTCAGAACCTGAGACCAAGACCATGGG AAAGGTTTCTCGATTCAGAATACGCAGAACACCAGCCCGTCCTCAGCTAAACCTTACACCAATGGGACTGCCTCG ACCAATCAGGTTGAACAAGAAGGAGTTCAGCTTGGAAGAAATTTACACCAACAAGAATTACCAATCACCCACAAC CAGGAGGACCTTTGAGACCATCTTTGAGGAACCCCGGGAGCGCAATGGGACTCTGATTTTCACCAGCTCAAGGAA GCTCCGGCGGGCTGTGGAATTTCGGGACAGCAGCCTTCCTCGATCACGAAGACCGTCCCGTGGGGTCCGGGCTGC AGGGGGCAGGACTGTTCCTCCCAATGTGGCCCCCAGCCCTGATGTGGGCCCCCTGCTCCAGCAGCGGCTGGAGGA ${\tt GCTAGATGCCTTGCTCCTGGAGGAAGAACAGTAGATCGGGAGCAGCCCCACTGGACC} {\tt TAG} {\tt GTGCCCCATCTGTT}$ ССАТАТСТТСТСАААААААААААААААААААААААА

MDLPGDSSPPGQPRLCRQPLTRALWGARSPKRPRLQLPGAPSPLEKASRRVLAVVLEDVMAVHMVPVVPSKQTSI
PQHHSYHQDPVHRQPPASPPRQAGWSSQARPPDPLCLCREPLSRIHRTSSTLRRRSRTTPGPEEGPSQKVDRAPQ
PTLVVMLEDIASPRPPAEGFIDETPNFIIPAQRAEPMRIVRQPTPPPGDLEPPFQPSALPADPLESPPTAPDPAL
ELPSTPPPSSLLRPRLSPWGLAPLFRSVRSKLESFADIFLTPNKTPQPPPPSPPMKLELKIAISEAEQSGAAEGT
ASVSPRPPIRQWRTQDHNTPALLPKPSLGRSYSCPDLGPPGPGTCTWPPAPPQPSRPRRRHTVGGGEMARAPPP
PRPCLRKEVFPLGGVGASPSLTTSCSSTASTSFSEPAEPRLGSTKGKEPRASKDQVLSEPETKTMGKVSRFRIRR
TPARPQLNLTPMGLPRPIRLNKKEFSLEEIYTNKNYQSPTTRRTFETIFEEPRERNGTLIFTSSRKLRRAVEFRD
SSLPRSRRPSRGVRAAGGRTVPPNVAPSPDVGPLLQQRLEELDALLLEEETVDREQPHWT

4838/6881 FIGURE 4460A

GCTAGGCTGACCCTCCTGCAGGTGACGGAAGTACCGCCTCCCGTTTGACGCCCCTCAGGGGACCCTGCATCG CTCCAGCCGCCGCCATGTCTGGGCCAGGCAACAAACGCGCCGCCGGCGACGGGGGCTCAGGGCCCCCGGAAA AGAAGCTGAGTCGTGAGGAGAAGACCACCACGACTCTTATCGAGCCCATTCGTCTTGGAGGCATCTCTTCCACGG AGGAGATGGACCTGAAGGTACTACAGTTCAAGAACAAGAAACTGGCAGAGCGGCTGGAACAACGGCAGGCTTGTG AAGATGAACTCCGAGAACGAATTGAGAAGTTGGAGAAGCGGCAGGCCACAGATGATGCCACACTCCTCATCGTCA ATCGCTACTGGGCCCAGCTGGATGAAACTGTGGAAGCCCTTCTCCGATGCCATGAGAGCCAGGGGGAGCTGTCTT CAGCGCCTGAGGCACCTGGGACCCAGGAGGGGCCAACATGTGATGGGACTCCTCTCCCAGAGCCGGGGACATCAG AGCTGAGAGACCCCTTGCTGATGCAGCTGCGGCCCCCTCTCAGTGAGCCGGCCTTGGCTTTTGTGGTGGCACTGG GTGCCAGCAGCAGTGAGGAGGTGGAGCTGGAGCTGCAAGGCCGAATGGAGTTCTCCAAGGCAGCTGTGTCTCGTG TGGTAGAGGCCTCAGACCGCCTACAGCGCCGGGTGGAGGAACTCTGTCAGCGAGTGTACAGCCGAGGGGACAGTG AGCCCCTCAGTGAGGCGGCTCAGGCACACCCCGAGAGCTGGGCCGTGAGAACCGGCGACTGCAGGACTTGGCCA CTCAGCTGCAGGAGAAACACCACCGCATCTCATTGGAGTACTCCGAGCTCCAGGATAAAGTGACATCGGCAGAGA CCAAGGTGCTGGAGATGGAGACAACAGTGGAGGACTTGCAGTGGGACATCGAGAAGCTGCGGAAGCGAGAGCAAA AGCTCAATAAGCACCTGGCAGAGGCCTTAGAGCAGCTTAACTCTGGCTACTATGTATCTGGGAGCTCCTCAGGCT TCCAGGGGGCCAGATCACACTCAGCATGCAGAAGTTTGAGATGCTGAATGCAGAGTTAGAGGAAAACCAGGAAC TGGCCAACAGCCGTATGGCAGAGCTGGAGAAACTGCAGGCCGAACTTCAGGGGGGCTGTGCGGACCAATGAGCGCC TCAAGGTGGCCCTGCGGAGCCTTCCTGAGGAGGTAGTGCGGGAGACGGGGGAGTACCGCATGCTGCAGGCCCAAT TCTCACTGCTCTACAACGAGTCTCTGCAAGTGAAGACCCAGCTAGACGAGGCTCGGGGCCTGCTGCTGGCCACAA AGAACTCCCACCTGCGACACATCGAGCACATGGAGAGCGACGAGCTGGGGCTGCAGAAGAAGCTACGCACAGAGG TCATTCAGCTGGAGGACACGCTGGCCCAGGTACGCAAGGAGTATGAGATGCTGCGCATCGAGTTTGAGCAGAATC TGGCGGCCAACGAGCAGGCGGGCCCATCAACCGTGAGATGCGCCACCTGATTAGTAGTCTTCAAAACCACAACC ACCAGCTAAAAGGGGACGCCCAGCGATACAAGCGGAAGCTTCGAGAAGTACAAGCTGAGATTGGCAAGCTCCGGG CCCAGGCCAGTGGCTCTGCCCACTCCACCCCCAACCTGGGCCACCCAGAGGATTCTGGCGTCAGTGCCCCAGCCC CAGGGAAAGAGGGGGGGCCAGGCCCTGTCAGTACCCCCGACAACAGAAAGGAGATGGCTCCAGTGCCTGGCA CCACCACTACTACCACTTCAGTGAAGAGGAGGAGCTGGTCCCCTCTGAAGAGGACTTCCAGGGTATAACCCCTG GGGCCCAGGGCCCTTCCTCCCGGGGCCGAGAACCTGAGGCCAAGCGGGAGGCTTCAGGAACGGGAAGGTC CCAGCCTAGGACCTCCACCTGTAGCCTCCGCTCTCTCAAGGGCTGATCGGGAGAAGGCCAAGGTGGAAGAAACCA AGCGGAAGGAATCAGAACTCCTCAAGGGTCTCCGAGCAGAGCTCAAGAAGGCCCAGGAGAGCCAGAAGGAGATGA AACTGCTGCTGGATATGTACAAGTCAGCGCCCAAGGAGCAGCGGGATAAGGTGCAGCTCATGGCAGCGGAACGCA AGGCTAAGGCCGAGGTTGATGAGCTGCGGAGCCGCATCCGGGAATTGGAGGAGAGGGATCGAAGGGAGAGCAAGA AACAGAACGGGCGGCTGCTACAGCAGTTGCGGGAAAAGGATGATGCCAACTTTAAGCTAATGTCAGAGCGGATCA AGGCCAACCAGATTCACAAGCTGCTGCGGGAGGAGAAGGATGAGTTGGGCGAGCAGGTCCTTGGCCTCAAGTCCC TGGAGAAGGAGCTGACGCTGCGCAAGCCCTGGAGCTCAACAAGCGGAAGGCTGTAGAAGCCGCCCAGCTGG GGGCTGCTCGTGAGAAAGAGAGCTTCAACCTCAAGAGGGCTCAGGAGGACATCTCACGGCTGCGGCGCAAGCTGG AAAAGCAGAGGAAGGTGGAGGTCTACGCAGATGCCGACGAAATCCTCCAGGAGGAGATCAAGGAGTACAAGGCGC GGTTGACCTGCCCTGTTAACACCCGCAAGAAGGATGCAGTCCTTACCAAGTGCTTCCACGTTTTCTGCTTCG AGTGCGTGCGGGCCGCTATGAGGCCCGCCAGAGGAAGTGCCCCAAGTGCAACGCGGCCTTTGGTGCCCACGACT TCCATCGTATCTACATCAGCTGAACCTGAAACTCAGGGGACTCTGGAACACCATGGACCCTGGGGGCTGTGCCCC CATCTCCTCCCCACCCAGGTCTAGTGGCCCCACCCTCCATTCCGGACCCCATGGGCCCAGCCCTGCCCATCTA GTTGGTTTGGGGACCCTGGTGCATGCTAGTGGGCATGGGATCAGCCAAGCTTCGTTCCATCTTTTCCTAAAGGTC AGAGCTGCAGCCTAGGGGGCACTGCCCTACAGAAAAGGTCTGCCTGAGAGGCCCTGAGGAGCCCAGAGCACTTGAC TGAGCTTCCCGGAAACTGGCCCTAACCTGTCTCTCTCTCGTGGATGCATCCTAACCCTAAGGAAAATTCCCCAGGC TGTGATCTACCCTAGAGAAGGCTCGCTCCCTGCCTACTGGCTCACAAATGAGGACCAGTGAGCCATGTCCTTGTT

4839/6881 FIGURE 4460B

4840/6881 FIGURE 4461

4841/6881 FIGURE 4462

GGGCGCAGGCGGCTGGCGAGTGGACTGTTCGAGCCCTTCCGCTGGGACCCGGGCCCTGGCTCCGGCC $\verb|CCGCGATGGGAGCTGCTCCCGCGGGCTGAGCCTGTCAGCATCCTCGACGCACCCTGGTCCCTGAAGTCGGAGAA| \\$ GAGCCCTACCCACCCCACACCCCCTTGCCCCATTTTGGGTCGCCTGGGTCCTCAGTCCTAGCCGGATCCTCAGTCC TTCCGCTCCGGCCCCTCCTGGGACCCGCACTCGCGCTCCGGGCCCGCTCGACGTCGGCCACCGACACACCACG TGGAGATGGCTCGGGAGCGCTCCAAGACCGTCACCTCCTTTTACAACCAGTCGGCCATCGACGCGGCAGCGGAGA AGCCCTCAGTCCGCCTAACGCCCACCATGATGCTCTACGCTGGCCGCTCTCAGGACGGCAGCCACCTTCTGAAAA TCATTGGCTGCAACCCCACCATACTGCACGTGCATGAGCTATATATCCGTGCCTTCCAGAAGCTGACAGACTTCC CTCCGATCAAGGACCAGGCCGACGACCCCAGTACTGCCAGCTGGTGCGACAGCTGCTGGATGACCACAAGGATG TGGTGACCCTCTTGGCAGAGGGCCTACGTGAGAGCCGGAAGCACATAGAGGATGAAAAGCTCGTCCGCTACTTCT TGGACAAGACGCTGACTTCGAGGCTTGGAATCCGCATGTTGGCCACGCATCACCTGGCGCTGCATGAGGACAAGC GCCTGTGTGAGCACAAGTATGGCAATGCGCCCCGTGTCCGCATCAATGGCCATGTGGCTGCCCGGTTCCCCTTCA TCCCTATGCCACTGGACTACATCCTGCCGGAGCTGCTCAAGAATGCCATGAGAGCCACAATGGAGAGTCACCTAG ACACTCCCTACAATGTCCCCAGATGTGGTCATCACCATCGCCAACAATGATGTCGATCTGATCATCAGGATCTCAG ACCGTGGTGGAGGAATCGCTCACAAAGATCTGGACCGGGTCATGGACTACCACTTCACTACTGCTGAGGCCAGCA CACAGGACCCCGGATCAGCCCCCTCTTTGGCCATCTGGACATGCATAGTGGCGCCCAGTCAGGACCCATGCACG GCTTTGGCTTCGGGTTGCCCACGTCACGGGCCTACGCGGAGTACCTCGGTGGGTCTCTGCAGCTGCAGTCCCTGC ${\tt AGGGCATTGGCACGGACGTCTACCTGCGGCTCCGCCACATCGATGGCCGGGAGGAAAGCTTCCGGATC\underline{TGA}CCCC}$ CTGCCTCAACAGGGTCCATTGCCTCCTCGCCTCCAGAACTTGGAGCAGGGAAGTGGGCACCCTGAGGCCTCCAGC ACCAGTTCCGTCATTCTCGTGCGGGAACCCCCACTCTGACCTGTTATTAAAGTTCACATTTTGAATGCCCTC TCGGGCCCCGTGTGTGGGGAGGGCAGGTG

MILASVLRSGPGGGLPLRPLLGPALALRARSTSATDTHHVEMARERSKTVTSFYNQSATDAAAEKPSVRLTPTMM LYAGRSQDGSHLLKSARYLQQELPVRIAHRIKGFRCLPFIIGCNPTILHVHELYIRAFQKLTDFPPIKDQADEAQ YCQLVRQLLDDHKDVVTLLAEGLRESRKHIEDEKLVRYFLDKTLTSRLGIRMLATHHLALHEDKPDFVGIICTRL SPKKIIEKWVDFARRLCEHKYGNAPRVRINGHVAARFPFIPMPLDYILPELLKNAMRATMESHLDTPYNVPDVVI TIANNDVDLIIRISDRGGGIAHKDLDRVMDYHFTTAEASTQDPRISPLFGHLDMHSGAQSGPMHGFGFGLPTSRA YAEYLGGSLQLQSLQGIGTDVYLRLRHIDGREESFRI

TATTCCCAGCAGAGCAGTCAGCCCTACGGACAGCAGAGTTACAGTGGTTATAGCCAGTCCACGGACACTTCAGGC TATGGCCAGAGCAGCTATTCTTCTTATGGCCAGAGCCAGAACACAGGCTATGGAACTCAGTCAACTCCCCAGGGA TATGGCTCGACTGGCGGCTATGGCAGTAGCCAGAGCTCCCAATCGTCTTACGGGCAGCAGTCCTCCTACCCTGGC TATGGCCAGCAGCCAGCAGCACCTCGGGAAGTTACGGTAGCAGTTCTCAGAGCAGCAGCTATGGGCAG CCCCAGAGTGGGAGCTACAGCCAGCCAGCCTAGCTATGGTGGACAGCAAAGCTATGGACAGCAAAGCTAT AATCCCCCTCAGGGCTATGGACAGCAGAACCAGTACAACAGCAGCAGTGGTGGAGGTGGAGGTGGAGGTGGA GGTAACTATGGCCAAGATCAATCCTCCATGAGTAGTGGTGGTGGCAGTGGTGGCGGTTATGGCAATCAAGACCAG AGTGGTGGAGGTGGCAGCGGTGGCTATGGACAGCAGGACCGTGGAGGCCGCGGCAGGGGTGGCAGTGGTGGCGGC GGCGGCGGCGGCGGTGGTTACAACCGCAGCAGTGGTGGCTATGAACCCAGAGGTCGTGGAGGTGGCCGTGGA GGCAGAGGTGGCATGGGCGGAAGTGACCGTGGTGGCTTCAATAAATTTGGTGGCCCTCGGGACCAAGGATCACGT CATGACTCCGAACAGGATAATTCAGACAACAACACCATCTTTGTGCAAGGCCTGGGTGAGAATGTTACAATTGAG TACACAGACAGGGAAACTGGCAAGCTGAAGGGAGAGGCAACGGTCTCTTTTGATGACCCACCTTCAGCTAAAGCA GCTATTGACTGGTTTGATGGTAAAGAATTCTCCGGAAATCCTATCAAGGTCTCATTTGCTACTCGCCGGGCAGAC TTTAATCGGGGTGGTGGCAATGGTCGTGGAGGCCGAGGGCGAGGACCCATGGGCCGTGGAGGCTATGGAGGT GGTGGCAGTGGTGGTGGCCGAGGAGGATTTCCCAGTGGAGGTGGTGGCGGTGGAGGACAGCAGCGAGCTGGT ${\tt CCTAAACCAGATGGCCCAGGAGGGGGACCAGGTGGCTCTCACATGGGGGGTAACTACGGGGGATGATCGTCGTGGT}$ GGCAGAGGAGGCTATGATCGAGGCGGCTACCGGGGGCCGCGGGGGACCGTGGAGGCTTCCGAGGGGGCCGGGGT $\texttt{CCGTAT} \underline{\textbf{TAA}} \\ \texttt{TTAGCCTGGCTCCCCAGGTTCTGGAACAGCTTTTTGTCCTGTACCCAGTGTTACCCTCGTTATTTT} \\$ GTAACCTTCCAATTCCTGATCACCCAAGGGTTTTTTTTGTGTCGGACTATGTAATTGTAACTATACCTCTGGTTC CCATTAAAAGTGACCATTTTAGTT

PCT/US2003/028547

4845/6881 FIGURE 4466

ATGCCAAGGTCAGGGGCTCCCAAAGAGCGCCCTGCGGAGCCTCTCACCCCTCCCCCATCCTATGGCCACCAGCCA CAGACAGGGTCTGGGGAGTCTTCAGGAGCCTCGGGGGACAAGGACCACCTGTACAGCACGGTATGCAAGCCTCGG TCCCCAAAGCCTGCAGCCCCGGCGGCCCCTCCATTCTCCTCTTCCAGCGGTGTCTTGGGTACCGGGCTCTGTGAG CTAGATCGGTTGCTTCAGGAACTTAATGCCACTCAGTTCAACATCACAGATGAAATCATGTCTCAGTTCCCATCT AGCAAGGTGGCTTCAGGAGAGCAGAAGGAGGACCAGTCTGAAGATAAGAAAAGACCCAGCCTCCCTTCCAGCCCG TCTCCTGGCCTCCCAAAGGCTTCTGCCACCTCAGCCACTCTGGAGCTGGATAGACTGATGGCCTCACTCTCTGAC TTCCGCGTTCAAAACCATCTTCCAGCCTCTGGGCCAACTCAGCCACCGGTGGTGAGCTCCACAAATGAGGGCTCC CCATCCCCACCAGAGCCGACTGGCAAGGGCAGCCTAGACACCATGCTGGGGCTGCTGCAGTCCGACCTCAGCCGC CGGGGTGTTCCCACCCAGGCCAAAGGCCTCTGTGGCTCCTGCAATAAACCTATTGCTGGGCAAGTGGTGACGGCT $\tt CTGGGCCGCCCTGGCACCCCGAGCACTTCGTTTGCGGAGGCTGTTCCACCGCCCTGGGAGGCAGCAGCTTCTTC$ GAGAAGGATGGAGCCCCCTTCTGCCCCGAGTGCTACTTTGAGCGCTTCTCGCCAAGATGTGGCTTCTGCAACCAG CCCATCCGACACAGATGGTGACCGCCTTGGGCACTCACTGGCACCCAGAGCATTTCTGCTGCGTCAGTTGCGGG CAGCCCTTCGGAGATGAGGGTTTCCACGAGCGCGAGGGCCCCCTACTGCCGCCGGGACTTCCTGCAGCTGTTC GCCCCGCGCTGCCAGGGCCCCAGGGCCCCATCCTGGATAACTACATCTCGGCGCTCAGCGCGCTCTGGCACCCG GACTGTTTCGTCTGCAGGGAATGCTTCGCGCCCTTCTCGGGAGGCAGCTTTTTCGAGCACGAGGGCCCCCGTTG TGCGAGAACCACTTCCACGCACGACGCGGCTCGCTGTGCGCCACGTGTGGCCTCCCTGTGACCGGCCGCTGCGTG TTCCAGGAGCGCGGCAAGCCCTACTGCCAGCCCTGCTTCCTGAAGCTCTTCGGCTGA

CGGGGCTGCCGCCGCGCGGACGGAGCCTGCAGTGGGAGGTCGGGGGCTGGCGCTGGTGGGGGCTCTCCAGG GCCTTCACGGTCAAACCTGAAGGACGAGATGCGGGCGAAGTGGGGGGCTTCCGGGGGCCCCCTCACCGCCCCTCTCC GGGCTCCAGGCCGTGTTCCTGCCTCAGGGCTTCCCTGATAGCGTCAGCCCGGACTACTTGCCCTACCAGCTGTGG GATTCCGTGCAGGCGTTTGCTTCCAGCCTCTCCGGCTCCCTAGCCACCCAGGCAGTCTTGCTGGGCATAGGGGTG GGGAACGCAAAAGCCACTGTTTCAGCTGCCACGGCCACCTGGCTCGTGAAAGATTCAACTGGCATGCTGGGCCGC ATCGTCTTTGCCTGGTGGAAAGGGAGCAAACTGGACTGCAATGCCAAGCAGTGGAGGCTTTTTGCGGACATCCTC AATGACGTAGCCATGTTCCTTGAGATTATGGCTCCTGTATACCCAATCTGTTTCACCATGACCGTCTCCACCAGC AACCTAGCCAAGTGCATCGTGAGTGTTGCTGGTGGGGCCACTCGGGCTGCCCTGACCGTGCACCAGGCTCGGAGG AACAACATGGCTGACGTGTCAGCCAAGGACAGCAGCCAGGAGACGCTGGTGAACCTGGCGGGGCTCTTGGTCAGC CTCCTGATGCTCCTCTGGTGTCAGGTTGCCCTGGCTTCAGCCTTGGATGTTTCTTCTTCCTCACTGCCCTCCAC ATCTACGCCAACTACCGCGCGGTCCGAGCCCTGGTCATGGAGACCTTGAACGAAGGCCGGCTCCGGCTGGTCCTG AAGCACTACCTTCAGAGGGGAGAGGTACTCGACCCAACTGCAGCCAATCGCATGGAGCCGCTGTGGACAGGTTTC TGGCCAGCTCCGTCTCTATCCCTGGGGGTCCCCTTACACCGCTTGGTCTCCAGTGTCTTTGAGCTGCAGCAGCTG GTTGAGGGGCACCAAGAATCCTACCTCCTCTGCTGGGACCAGTCACAAAACCAGGTACAGGTACTGAACCAG AAGGCAGGCCCCAAGACCATCCTAAGGGCCGCCACACATGGGCTGATGCTTGGGGCCCTGCAGGGAGATGGACCC GAGACACACGAAGTGTTGGACATGCTGTTCCCAAAGTTCTTGAAAGGACTGCAGGATGCCGGCTGGAAGACCGAG ${\tt AAGCACCAGCTAGAGGTGGGTGAGTGGAGGGCCACATGGCTTCTGTCTCCCGAAAAGAAGGTCTTG\underline{TGA}\!GCAGCC}$ CAGACGGAGGCCCAAGCCCAGGGCAGGAACCTGGAGCAAGGACACTTTGGCCACAGCAGGACAGGGGAAAGGCAG CTTTATTTTTCCTTAGGGCAACTGCAGCGGGTGGGCCCAGGCCCTCATGGGAAGTGACTGCCAATCAGATGCAGTG GGCCCCAGGCAGAGGAAGGCCGGGAGAAGGGGAGCCAGGACCTTCTCACCCCACTGCCCCTTCCCCTTTTCTGGG GAGCACCGCAGGCTCCTCACCCCCACTTCCTGTGAGGCTGTGGCTTATGGTGTCCAACGCAGTTGGTCTTAGGCA TAGAAGCCCCAGAGGAACACGGCCACTGCCATCATGAGCAGGGCATTGAGGTTGACCACACGGGCCCAGCTCGGG TCCTCGCTGATGTCCTCCAGCCGCCTGGCTGCCGCTGCCTCCTCCTGGGTAAGGGGCCGAGGACTGCCCACC CCACCTCTGCTCATTCCACAAAACCAGAGCAGGCACTGGCGGAAGAGGCTTGGTGCCGGGGCCTGGGGCTCTGAG GGAAATTGAGGCCCTGCAGTTAGTTTGCGGGAACTCAGCTCCTCCAGCCCCACCTCCCAGCATGGTGCCCTACCA TTCATCTCCATGGCACTCTCTGGGCACCCATTCTGTACAGGGAGTGAGGAGCCTTGCTGCTCATCAGCATCCAGG CTCTGTCCAGTCTACACACCCAGCCCAGGCTTAACTCATGCCAACTCCACCCTACATGGCTGCCCTGTGCCCTCG GGATAAACCCCAAGCCCCTGAGCTTGTGTTTAAAGCCGTTGGCCTTGCTCCCCCAGCTTTGTCAGCTCAGGTCTG ACCCTTTCCTCCTGCTGCAGAAACCCGGCCATCCTTCCACACCCAGATCTCTTGTCCTGTCCTCACCCCACC $\verb|CTGCCACCATCAGCCCTGCCTGGGAGCCACCTGCCCTTTGGCAACAAAACCAAACCTTTTTGTGGGCGTTCAAGAT| \\$ GGTATTGTGCCCACCAGTCAGATCCTGTGTTTTGAGTCCCAAAGGCCATGCCAAGGATTGGCTTTGGGAGGCTTT

MADDAGLETPLCSEQFGSGEARGCRAAADGSLQWEVGGWRWWGLSRAFTVKPEGRDAGEVGASGAPSPPLSGLQA
VFLPQGFPDSVSPDYLPYQLWDSVQAFASSLSGSLATQAVLLGIGVGNAKATVSAATATWLVKDSTGMLGRIVFA
WWKGSKLDCNAKQWRLFADILNDVAMFLEIMAPVYPICFTMTVSTSNLAKCIVSVAGGATRAALTVHQARRNNMA
DVSAKDSSQETLVNLAGLLVSLLMLPLVSGCPGFSLGCFFFLTALHIYANYRAVRALVMETLNEGRLRLVLKHYL
QRGEVLDPTAANRMEPLWTGFWPAPSLSLGVPLHRLVSSVFELQQLVEGHQESYLLCWDQSQNQVQVVLNQKAGP
KTILRAATHGLMLGALQGDGPLPAELEELRNRVRAGPKKESWVVVKETHEVLDMLFPKFLKGLQDAGWKTEKHQL
EVGEWRATWLLSPEKKVL

GCTTCCCTGCTTGATCTGTGTACCCTGCTCTTTCTCCTTCATTCCGCAGCCTCCTTTGCCCTGTGACCTGCAGGT ACTGGACGGTCCCTAGAGAGGATACCGGGACGCTCCTGAAGCCGCGAGATGATTTCAAGCAGATGCAGCCTGACC TGGGAAGGAGGATGGCTGCCAGGATGGCTCTTCCATGATACTGAAGGGAGAGCCACATGTTGATGCCCAGGACCA GCTGCCTCCTTGGTCTGAAAGGCCTGATCGAGGCCAGGATTGGCTATGAGAGCTGGGAAATGGGACCATCTTTGA AGCCATGGGAGAGGGTGAGAGCCACCATCACTCATGTTCTTGAATGGGAACTGCCTGGAGACCCTGAAGAAGAAG GAGCCTGAAGGAGGAGGAGGAGGCCGAGCCATCCCGGGAACATGGGCTGGATGAGGCCAAGCCAGGAGACGACA CCACCAGATAGAAGTCACCATTCAGGATTTGGACTTTTCTGTGGAGATCCTGGCCCCGAGATCGAACCCTTCTCC CTGTGGGTGTTCCCGCAGGAGATGGTGCTGGAGATCCACCAGCTGTTCATGGACCATGAATACCCATGTCACCAC ATCACTTCTCACTGCACCTGGGTGGCAGCACACTGGACCACGTCTCAGAGCTGCGCAGCATGGCAGGGCTGCAGG CGGGCTTGCTGCTCCACGTGGTGGAAGAGCCCTGCACAATGCACAAGGCCCACGGTGATGAGTGCCACATTTGAG GACGGCAGGAGCAGAAAGACTTGGAGATGGACCCCACCGACTGCACCCCCCAAGTACATCCTGCTAGGGACCC TGGAACAGCCACTGTGTCCCCTGCAACCCCAGAACGGTGACTAAAAGCCCCTGAAAGTGCTCACCGTGAGCGGCT GGTACCTGTCCCCTGGGAACTGCAAGATGCACAGGACCTTGTGTACCTGTTTTGTGATCACAGCCGAGGACCAGCG AGGTAGCATTACCACACCACACAGGGCTTTTACCATAACCGCCCCAGTACTGGAACGAGGAGCTGCAGATGATG AGGGACCTACCCAACAAGAACCAACCTGAGCAGCTGCTTCAAGAAAAAGCCATGTTCAAGGTGCCTGAATCCCCT GGTAAGTGAGTGACAGCCTCACAGCCTCAGGCCCACCTGGCTCCTGCTGGAAGGTTTTCTTGTGCTCGGGAGAGA AGTGAGGGAAGCCGGCAGTCCCAGCCCTGTCAGGTGCCCTGAAGGCCCGTCAGGTTTGCCCTGCAAGGCCTTCTA GCATTCTGCTTCCTGGGAGACCATCCCCCACCTTTCTCCGGCCTCTGAGACTTTGAGTCCTTGGGAGGAGAAGGC CTGAGCACATGGTGCCCAACTGTAGCCCTTCTAGGGCAGGGGCTCATTGGCAGCACTTGCAGCTTGCTGGCACTT

 ${\tt MFLNGNCLETLKKKEPEGGRRRLSHPGNMGWMRPSQETTPPDRSHHSGFGLFCGDPGPEIEPFSLWVFPQEMVLE} \\ {\tt IHQLFMDHEYPCHHITSHCTWVAAHWITSQSCAAWQGCRRACCSTWWKSPAQCTRPTVMSATFETAQEPGPS} \\$

MPKRKAEGDAKGDKAKVKDEPQRRSARLSAKPPPPKPDSPSLERPLQRRERRYPKGKREKLMLRRRDSLTLTHMA TLAQKPCGIEKQICFYVLFSLSIFQHRLNSLKPRHLLGPDP

· .

4853/6881 FIGURE 4474

GCTGTACGACATCCTGGGCGTCCCGCCCGGCGCCAGCGAGAACGAGCTGAAGAAGGCATACAGAAAGTTAGCCAA GGAATATCATCCTGATAAGAATCCAAATGCAGGAGACAAATTTAAAGAAATAAGTTTTGCATATGAAGTACTATC CATGGATGATATTTTCTCTCACATTTTTGGTGGGGGATTGTTCGGCTTCATGGGCAATCAGAGTAGAAGTCGAAA TGGCAGAAGAGAGAGAGACATGATGCATCCACTCAAAGTATCTTTAGAAGATCTGTATAATGGCAAGACAAC GTGTAGTGCTTGTCGAGGTCGAGGTGTGCGCATCATGATCAGACAGCTGGCTCCAGGGATGGTACAACAGATGCA GAAGGTGATTAAAGAAGTCAAGATTCTTGAAGTCCACGTAGACAAAGGCATGAAACATGGACAGAGAATTACATT GGTATTTCAGAGAGATGGGAATGATTTGCACATGACATATAAAATAGGACTTGTTGAAGCTCTATGTGGATTTCA GTTCACATTTAAGCACCTTGATGGACGTCAGATTGTGGTGAAATACCCCCCTGGCAAAGTAATTGAACCAGGGTG TGTTCGTGTAGTTCGAGGTGAAGGGATGCCGCAGTATCGTAATCCCTTTGAAAAAGGTGATCTTTACATAAAGTT TGATGTGCAGTTTCCTGAAAACAACTGGATCAACCCAGACAAGCTTTCTGAACTAGAAGATCTTCTGCCATCTAG ACCGGAAGTTCCTAACATAATTGGAGAAACAGAGGAGGTAGAGCTTCAGGAATTTGATAGCACTCGAGGCTCAGG $\tt GTGTGCCCATCAG\underline{TAA} \tt ACTCTGCAAACAAATTGCACAGGTGGATTTTCTTTCCACATTTGCCTGATTTGTTCTCACATTTGCCTGATTTGTTCTCACATTTGCCTGATTTGTTCTCACATTTGCCTGATTTGTTCTCACATTTGCTCACATTTTCACATTTACATTTACATTTTCACATTTTCACATTTTCACATTTACATTTACATTTACATTTACATTTTTCACATTTACATTTTCACATTTACATTTACATTTACATTTACATTACATTTACA$ GCAATCCAGCTGGAGTGTCTTATCAATCCAGATGAACTGAGGGACATCTGTTGGTCTATGTATAACTTTTAAAAT TGGTATAGTATCTACAGAGTGTATAATTTAAACTAACCACAAAGCTTTACATCTTCATTTTGACTGTTCCATAGC AGAATAAAGCACTTGAAAGGAAACAAGACTCCCTTTCACACATGGATTATTATAAGTTTCAATCCTGGTATCTGT GCTTGATTTTTATCAGTTTTGTGTAGATTTTTATGTTTCATATTTTAAATTTAAATCCCACATTGTAAAGTTTGT ACAATTTGTCCTGAAGCTTTGTGTTTTGGCTGCACCTGCATAAGCTGCTACAAATAGAATAAAGAATTTCATAGCC TGTATCTATCATTTAGATGCATGGAAAAAAATGGGCTTTGCACACAATGGGTTTGGAGCTGACTGGGAACAATGG TTTTTTTACCATCTTGTGAAAGGTTTCTGAAACTCGATAATAAAAAGCGGTTGGTGAAATT

MANVADTKLYDILGVPPGASENELKKAYRKLAKEYHPDKNPNAGDKFKEISFAYEVLSNPEKRELYDRYGEQGLR EGSGGGGGMDDIFSHIFGGGLFGFMGNQSRSRNGRRRGEDMMHPLKVSLEDLYNGKTTKLQLSKNVLCSACSGQG GKSGAVQKCSACRGRGVRIMIRQLAPGMVQQMQSVCSDCNGEGEVINEKDRCKKCEGKKVIKEVKILEVHVDKGM KHGQRITFTGEADQAPGVEPGDIVLLLQEKEHEVFQRDGNDLHMTYKIGLVEALCGFQFTFKHLDGRQIVVKYPP GKVIEPGCVRVVRGEGMPQYRNPFEKGDLYIKFDVQFPENNWINPDKLSELEDLLPSRPEVPNIIGETEEVELQE FDSTRGSGGGQRREAYNDSSDEESSSHHGPGVQCAHQ

GGCACGAGCGCGGCGTTCACGGGAATTGTTCGCTTTAGTGCCGGCGCCA**TC**GGGTCGGAGCTGATCGGGCGCCCTA GCCCCGCGCCTGGGCCTCGCCGAGCCCGACATGCTGAGGAAAGCAGAGGAGTACTTGCGCCTGTCCCGGGTGAAG TGTGTCGGCCTCTCCGCACGCACCACGGAGACCAGCAGTGCAGTCATGTGCCTGGACCTTGCAGCTTCCTGGATG AAGTGCCCCTTGGACAGGGCTTATTTAATTAAACTTTCTGGTTTGAACAAGGAGACATATCAGAGCTGTCTTAAA TCTTTTGAGTGTTTACTGGGCCTGAATTCAAATATTGGAATAAGAGACCTAGCTGTACAGTTTAGCTGTATAGAA GCAGTGAACATGGCTTCAAAAGATACTAAAAAAGCTATGAGTCCAGTCTTCCCCAGACACAGCAAGTGGATCTTGAC TTATCCAGGCCACTTTTCACTTCTGCTGCACTGCTTTCAGCATGCAAGATTCTAAAGCTGAAAGTGGATAAAAAC AAAATGGTAGCCACATCCGGTGTAAAAAAAGCTATATTTGATCGACTGTGTAAACAACTAGAGAAGATTGGACAG CAGGTCGACAGAGAACCTGGAGATGTAGCTACTCCACCACGGAAGAGAAGAAGATAGTGGTTGAAGCCCCAGCA AAGGAAATGGAGAAGGTAGAGATGCCACATAAACCACAGAAAGATGAAGATCTGACACAGGATTATGAAGAA TGGAAAAGAAAATTTTGGAAAATGCTGCCAGTGCTCAAAAGGCTACAGCAGAG<u>TGA</u>TTTCAGCTTCCAAACTGG TATACATTCCAAACTGATAGTACATTGCCATCTCCAGGAAGACTTGACGGCTTTGGGATTTTGTTTAAACTTTTA TAATAAGGATCCTAAGACTGTTGCCTTTAAATAGCAAAGCAGCCTACCTGGAGGCTAAGTCTGGGCAGTGGGCTG GCCCCTGGTGTGAGCATTAGACCAGCCACAGTGCCTGATTGGTATAGCCTTATGTGCTTTCCTACAAAATGGAAT CAGGAGCTCGAGACCAGCCTGGCCAACATGGTGAAACCCCATCTCTACTAAAAATACAAAAATTAGCCAGGTGTG ATGGTGCATGCCTGTAATCCCAGCTCCTCAGTAGGCTGAGACAGGAGCATCACTTGAACGTGGGAGGCAGAGGTT ${\tt GATAGATAAACGGAATTGGAGCCATTTTGCTTTAAGTGAATGGCAGTCCCTTGTCTTATTCAGAATATAAA}$

MGSELIGRLAPRLGLAEPDMLRKAEEYLRLSRVKCVGLSARTTETSSAVMCLDLAASWMKCPLDRAYLIKLSGLN KETYQSCLKSFECLLGLNSNIGIRDLAVQFSCIEAVNMASKILKSYESSLPQTQQVDLDLSRPLFTSAALLSACK ILKLKVDKNKMVATSGVKKAIFDRLCKQLEKIGQQVDREPGDVATPPRKRKKIVVEAPAKEMEKVEEMPHKPQKD EDLTQDYEEWKRKILENAASAQKATAE

TATTTTGTCAGATGTGTTGAACCTCGATTAAGATTGCATTATGACATTCTTGAAGACCGAGTTCCATCAGGACTT ATTGTTGACTACCACAATCTGTTGTCTCAATGTGAGGAGAGTTACAGGAAATTTTTAAATCTGAGAAGCAGTTTG TCAAATTGTAACTCTGATTCCGAGCAGGAAAATATCTCCATGGTGGAAGGGTTAAAATTGTATTCGGAGATGGAA CAGTTGAAACAAAAGCTGAAACTCATTGAGAATCCTTTGTTGAGGTATGTGTTTGGTTATCAGAAGAATTCTAAC ATCCAAGCAAAGGGTGTCCGTTCCAGCGGTCAGAAGATCACTCATGTGGTCTCCTCCACCATGATGGCTGGTCTC ACTITCTCCATTGCTGACTCCATTGAGTTGGAAGGATATGGCCTACCAGATGACATTGTGATAGAAAAAGAGGGGC AAAGGCGACACTTTTGTGGACTGCACTGGTGCTGATATTAAAATCTCAGGCATAAAATTTGTTCAGCATGATGCT GTAGAGGGAATCTTAATTGTTCACCGTGGTAAGACTACGCTGGAAAACTGTGTGCTGCAGTGTGAGACGACCGGA GTCACAGTGCGGACATCAGCAGAGTTTCTAATGAAGAACTCGGATTTATATGGCGCCCAAGGGTGCTGGTATAGAA TTCTTAGATGAACATTATGACATTCCCAAGATATCCATGGTGAATAATAATAATACATAATAATAATGAAGGTTATGGT GTTGTCTTGGTGAAACCTACAATCTTCTCTGACCTGCAAGAAAATGCTGAAGATGGAACTGAAGAAAATAAAGCG CTTAAAATTCAGACAAGTGGAGAGCCAGATGTGGCTGAAAGAGTGGATCTAGAAGAGCTGATTGAGTGTGCAACT GGTAAAATGGAGCTTTGTGCAAGAACTGACCCTTCTGAGCAAGTCGAGGGAAATTGTGAAATTGTAAATGAACTA ATTGCTGCCTCCACACAGAAAGGCCAGATAAAGAAGAAAAGGTTGAGTGAACTGGGGGATCACGCAAGCTGATGAC AACTTAATGTCACAGGAGATGTTTGTTGGGGATTGTGGGGAACCAGTTCAAGTGGAATGGGAAAGGTAGTTTTGGC ACATTTCTTTTCTGACTACAGTGATGTAAGTAGATAGCAAAATACTGGATTTTGCACATGCTGCCCTAAGAATCA CTGCTGCCATTGTAGTTTGCTGTATTGTCTGTATTTATATTTGATTATTTTGGGCTTGAGTGAAAGGTAGATTTA TTTCCATTTGCAGGTGTTGCACATAAAACACTCCCTCTTTATAAGAAAAATCATAAATGCATATAAAATAGAAAA TATTTGGAGATTGCTTATCTGAAAGTCTTGCTTTCTTATACACATGGTTCTCTCATATTAAGCCTGGTAGTAACT CAATAGGTGTCATATGTACAGCATTCTTCTTAGAGTTGCCTTTTCATCCCAATTACAGTGAGTCTGATTTCCATC CTGTATTTGCATAATACTTGTCTTAAAATAAAAGCTTTTATGATTGGGAATTTATCTGCCTAATCAGACTTATTA TTGAGACGTCAATGGGACGCATTTTTCTGTTGAGCTATGCAGTCGTCAAAACAGCGATAGACAGCATAGGAGGTT TGAAGCAGAAATGAAATGTGTTATTCAGAGCCAATGTTGTACATAGAGCATTTTCACTATTGCTGAATGGGAATG ATTAAAAACAAGGTATTTTTCGGGCCAGGCGGTGGCTCACGCTTGTAATCGCAGCACTTTGGGAGGCTGAGGCAG TTAAAAAAATTAGCTGAGTGTGGTGGTGCATGCATGTAGTTCCAGCTACTCAGGAGGCTGAGGCTAGAGGATCC TTGAGECCAGGAGGTTGAGGCTGCAGTGAGGTGTGATTGCGCCACTGCATTCCAGCTTGGGCGACAGAGCGAGAC CCAGTCTCAAAAAAAAAAAAAAAGTATTTTCTCTTACCGTTACAGTATTCTGATTATATTACTGACACAGTCAAA ATGATTAACTGTACAACCTGTATCTGCTGGGTGTTCTTGTTATCATATTGTAAAACAGCTTTAAAAAATATTTATA

CTCCAGCAAGAAGTTGAGGGAGAAAGGCGGGCCCAGGAGCGCCTGGCCACTGCCCTGCAAAAGCTGGAAGAAGCA GAAAAAGCTGCTGGTGAGAGTGAGAGGGTATGAAGGTTATTGAAAACCGGGCTTTAAAAGATGAAGAAAAGATG GAACTCCAAGAACTCCAACTCAAAGAAGCTAAGCACATŢGCAGAAGAGGCAGATAGGAAGTATGAAGAGGTGGCT CGTAAGTTGGTGACCATTGAAGGAGACTTGGAACGCACAGAGGAACGAGCTGACCTGACAGAGTCCCGTTGCCGA GAGATGGATGAGCAGATTAGACTGATGGACCAGAACCTGAAGTGTCTGAGTGCTGCTGAAGAAAAGTACTCTCAA AAAGAAGACAAATATGAGGAAGAATCAAGATTTTTACTGATAAACCCAAGGAGGCAGAGACCTGTGCTGAGTTT GCTGAGCGATCGGTAGCCAAGCTGGAAAAGACAATTGATGACTTGGAAGATAAACTGAAATGCACCAAAGAGGAG CACCTCTGTACACAAAGGATGCTGGACCAGACTCTGCTTGACCTGAATGAGATGTAGAATGCCCCAGTCCCACCC TGCTGCTGCTCCCTGTGACCCAGACTCCGCCTGAGGCCAGCCTGCCAGAAGCTGACCTTTAACTGAGGGCTG ATCTTTAACTGGAAGGCTGCTTTCTCCTTTCACCGCCCCCTCCTTCCCTGTGTCTTTTTCGCCAAACTGTCTCTG CCTTTTCCCGGAGAATCCAGCTGGGCTAGAGGCTGAGCACCTTTGGAAACAACATTTAAGGGAATGTGAGCACAA TGCATAATGTCTTTAAAAAGCGTGTTGTGATGTACACATTTTGTAATTACCTTTTTTGTTGTTTTTGTAGCAAACA TTTGTAAAACATTCCAAATAATTCCACAGCCCTGAAGCAGCAATCAAATCCCTTTCTCACTTTTGGAAGGTGACT TTTCACCTTAATGCATATTCCCCTCTCCATAGAGGAGAGAAAAGGTATAGGCTTGCCTTGCTGAGAGCCAAACA GAGCCCAGGGAGACTCCACTGTGGGAAACCTCATTGCTCTGTACAAAGTACTAGCTAAACCAGAAAGGTGATTCC AGGAGGAGTTAGCCCAACAACAACAAAAACAAAAATGTGCTGTTCAAGTTTTCAGCTTTAAGATATCTTTGGATA ATATTATTTCTATTTTTTTTTTTTTTTTTTTATAGAAATGATCAAATTAAGATGGTTAAGACCTCTGAGACCAAAACT TTCTCTCATCTCTACCCCCTCCCAACTGCTCACAGAACGGATCATGTCCCCCTTATGTTGAGGTGACCACTTAAT TGCTTTCCTGCCTCCTTGAAAGAAGAAGATTGTGTTTTCTCCACTGATTTAGCCATGTGAAACTCATCTCATTA ATCTTGAATAGCTTATGTACAAAACTTTTTAAATTTTTATATTTTTAAAACTTTGCTTCTTTGGGTTTGTGGCA CCCTGGCCACCCCATGTGGCTGTGACAGCCTCTGCAGTCCGTGGGCTGGCAGTTTGCTGATCTGTTAAAATTTCT TTCCCTACCCAGTCCCCATTTTCTGGTAAGGTTTCTAGGAGGTCTGTTAGGTGTACATCCTGCAGCTTATTGGCT TAAAATGTACTCTCCTTTTATGTCGTCTCTTTGGGGCTGATTGGGAGAAAGAGAAATCAATAGTGCAACTGTTTT GATACTGAATATTGACAAGTGTCTTTTTTGAAATAAAGAACCAGTCCCTCC

4859/6881 FIGURE 4480

MMQRSELSASSKKLREKGGPGNRGMKVIENRALKDEEKMELQELQLKEAKHIAEEADRKYEEVARKLVTIEGDLE RTEERAELTESRCREMDEQIRLMDQNLKCLSAAEEKYSQKEDKYEEEIKIFTDKPKEAETCAEFAERSVAKLEKT IDDLEDKLKCTKEEHLCTQRMLDQTLLDLNEM

4861/6881 FIGURE 4482

4862/6881 FIGURE 4483

TGTTTCCGCTGCATCCAGACTTCCTCAGGCGGTGGCTGGAGGCTGCGCATCTGGGGGCTTTAAACATACAAAGGGA TTGCCAGGACCTGCGGCGGCGGCGGCGGCGGGGGGCCGGGGGCCGGACCATGAGCCGCTGAGCCGG GCAAACCCCAGGCCACCGAGCCAGCGGACCCTCGGAGCGCAGCCCTGCGCCGGGAGCAGGCTCCAACCAGGCGG CGAGGCGGCCACACGCACCGAGCCAGCGACCCCCGGGCGACGCGGGGGCCAGGGAGCGCTACGATGGAGGCGCT AATGGCCCGGGGCGCCTCACGGGTCCCCTGAGGGCGCTCTGTCTCCTGGGCTGCCTGAGCCACGCCGCCGC CGCGCCGTCGCCCATCATCAAGTTCCCCGGCGATGTCGCCCCCAAAACGGACAAAGAGTTGGCAGTGCAATACCT GAACACCTTCTATGGCTGCCCCAAGGAGAGCTGCAACCTGTTTGTGCTGAAGGACACACTAAAGAAGATGCAGAA GTTCTTTGGACTGCCCCAGACAGGTGATCTTGACCAGAATACCATCGAGACCATGCGGAAGCCACGCTGCGGCAA CCCAGATGTGGCCAACTACAACTTCTTCCCTCGCAAGCCCAAGTGGGACAAGAACCAGATCACATACAGGATCAT TGGCTACACCCTGATCTGGACCCAGAGACAGTGGATGATGCCTTTGCTCGTGCCTTCCAAGTCTGGAGCGATGT GACCCCACTGCGGTTTTCTCGAATCCATGATGGAGGGCAGACATCATGATCAACTTTGGCCGCTGGGAGCATGG CGATGGATACCCCTTTGACGGTAAGGACGGACTCCTGGCTCATGCCTTCGCCCCAGGCACTGGTGTTGGGGGAGA CTCCCATTTTGATGACGATGAGCTATGGACCTTGGGAGAAGGCCAAGTGGTCCGTGTGAAGTATGGGAACGCCGA TGGGGAGTACTGCAAGTTCCCCTTCTTGTTCAATGGCAAGGAGTACAACAGCTGCACTGATACCGGCCGCAGCGA TGGCTTCCTCTGGTGCTCCACCACCTACAACTTTGAGAAGGATGGCAAGTACGGCTTCTGTCCCCATGAAGCCCT GTTCACCATGGGCGGCAACGCTGAAGGACAGCCCTGCAAGTTTCCATTCCGCTTCCAGGGCACATCCTATGACAG CTGCACCACTGAGGGCCGCACGGATGGCTACCGCTGGTGCGGCACCACTGAGGACTACGACCGCGACAAGAAGTA TGGCTTCTGCCCTGAGACCGCCATGTCCACTGTTGGTGGGAACTCAGAAGGTGCCCCCTGTGTCTTCCCCTTCAC CAACTACGATGATGACCGCAAGTGGGGGCTTCTGCCCTGACCAAGGGTACAGCCTGTTCCTCGTGGCAGCCCACGA GTTTGGCCACGCCATGGGGCTGGAGCACTCCCAAGACCCTGGGGCCCTGATGGCACCCATTTACACCTACACCAA GAACTTCCGTCTGTCCCAGGATGACATCAAGGGCATTCAGGAGCTCTATGGGGCCCTCTCCTGACATTGACCTTGG CACCGGCCCCACCCCCACGCTGGGCCCTGTCACTCCTGAGATCTGCAAACAGGACATTGTATTTGATGGCATCGC TCAGATCCGTGGTGAGATCTTCTTCTTCAAGGACCGGTTCATTTGGCGGACTGTGACGCCACGTGACAAGCCCAT GGGGCCCCTGCTGGTGGCCACATTCTGGCCTGAGCTCCCGGAAAAGATTGATGCGGTATACGAGGCCCCACAGGA GCCACTGACCAGCCTGGGACTGCCCCCTGATGTCCAGCGAGTGGATGCCGCCTTTAACTGGAGCAAAAACAAGAA GACATACATCTTTGCTGGAGACAAATTCTGGAGATACAATGAGGTGAAGAAGAAAATGGATCCTGGCTTCCCCAA GCTCATCGCAGATGCCTGGAATGCCATCCCCGATAACCTGGATGCCGTCGTGGACCTGCAGGGCGGCGGTCACAG CTACTTCTTCAAGGGTGCCTATTACCTGAAGCTGGAGAACCAAAGTCTGAAGAGCGTGAAGTTTGGAAGCATCAA ATCCGACTGGCTAGGCTGCTGAGCTGGCCCTGGCTCCCACAGGCCCTTCCTCTCCACTGCCTTCGATACACCGGG CCTGGAGAACTAGAGAAGGACCCGGAGGGGCCTGGCAGCCGTGCCTTCAGCTCTACAGCTAATCAGCATTCTCAC TCCTACCTGGTAATTTAAGATTCCAGAGAGTGGCTCCTCCCGGTGCCCAAGAATAGATGCTGACTGTACTCCTCC CAGGCGCCCCTCCCAATCCCACCAACCCTCAGAGCCACCCCTAAAGAGATACTTTGATATTTTCAACGC AGCCCTGCTTTGGGCTGCCCTGGTGCTGCCACACTTCAGGCTCTTCTCCTTTCACAACCTTCTGTGGCTCACAGA ACCCTTGGAGCCAATGGAGACTGTCTCAAGAGGGCACTGGTGGCCCGACAGCCTGGCACAGGGCAGTGGGACAGG AAGGACTCAGGTTGTCTGAAGTCACTGCACAGTGCATCTCAGCCCACATAGTGATGGTTCCCCTGTTCACTCTAC TTAGCATGTCCCTACCGAGTCTCTTCTCCACTGGATGGAGGAAAACCAAGCCGTGGCTTCCCGCTCAGCCCTCCC TGCCCCTCCCTTCAACCATTCCCCATGGGAAATGTCAACAAGTATGAATAAAGACACCTACTGAGTGGC

MFLAKALLEGADRGLGEALGGLFGGGGQRREGGGRNIGGIVGGIVNFISEAAAAQYTPEPPPTQQHFTSVEASES EEVRRFRQQFTQLAGPDMEVGATDLMNILNKVLSKHKDLKTDGFSLDTCRSIVSVMDSDTTGKLGFEEFKYLWNN IKKWQCVYKQYDRDHSGSLGSSQLRGALQAAGFQLNEQLYQMIVRRYANEDGDMDFNNFISCLVRLDAMFRAFKS LDRDRDGLIQVSIKEWLQLTMYS

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GAACTGTCGCCCTTCCAGGATGTGGCTCCCTGCTCTTGTCCTGGCCACTCTCGCTGCTTCCGCGGCTTGGGGGCCA TCCGTCCTCGCCACCTGTGGTGGACACCGTGCATGGCAAAGTGCTGGGGAAGTTCGTCAGCTTAGAAGGATTTGC ACAGCCTGTGGCCATTTTCCTGGGAATCCCTTTTGCCAAGCCGCCTCTTGGACCCCTGAGGTTTACTCCACCGCA GCCTGCAGAACCATGGAGCTTTGTGAAGAATGCCACCTCGTACCCTCCTATGTGCACCCAAGATCCCAAGGCGGG GCAGTTACTCTCAGAGCTATTTACAAACCGAAAGGAGAACATTCCTCTCAAGCTTTCTGAAGACTGTCTTTACCT CAATATTTACACTCCTGCTGACTTGACCAAGAAAAACAGGCTGCCGGTGATGGTGTGGATCCACGGAGGGGGGCT GATGGTGGGTGCGCATCAACCTATGATGGGCTGGCCCTTGCTGCCCATGAAAACGTGGTGGTGACCATTCA ATATCGCCTGGGCATCTGGGGATTCTTCAGCACAGGGGGATGAACACAGCCGGGGGAACTGGGGTCACCTGGACCA GGTGGCTGCCCTGCGCTCGGGTCCAGGACAACATTGCCAGCTTTGGAGGGAACCCAGGCTCTGTGACCATCTTTGG AGAGTCAGCGGGAGGAGAAAGTGTCTCTGTTCTTGTTTTGTCTCCATTGGCCAAGAACCTCTTCCACCGGGCCAT TTCTGAGAGTGGCGTGGCCCTCACTTCTGTTCTGGTGAAGAAAGGTGATGTCAAGCCCTTGGCTGAGCAAATTGC GGCACTGTGATTGATGGGATGCTGCTGAAAACACCTGAAGAGCTTCAAGCTGAAAGGAATTTCCACACTGTC CCCTACATGGTCGGAATTAACAAGCAGGAGTTTGGCTGGTTGATTCCAATGTTGATGAGCTATCCACTCTCCGAA GGGCAACTGGACCAGAAGACAGCCATGTCACTCCTGTGGAAGTCCTATCCCCTTGTTTGCATTGCTAAGGAACTG ATGTATGAGTTTCAGTACCGTCCAAGCTTCTCATCAGACATGAAACCCAAGACGGTGATAGGAGACCACGGGGGAT GTGATGAAATTCTGGGCCAACTTTGCTCGCAATGGAAACCCCAATGGGGAAGGGCTGCCCCACTGGCCAGAGTAC AACCAGAAGGAAGGGTATCTGCAGATTGGTGCCAACACCCAGGCGGCCCAGAAGCTGAAGGACAAAGAAGTAGCT ATCCAGCCGGCCTTGGGAGCCTGGAGGAGCAAAGACTGGGGTCTTTTGCGAAAGGGATTGCAGGTTCAGAAGGCA TCTTACCATGGCTGGGGAATTGTCTGGTGGTGGGGGGCAGGGGACAGAGGCCATGAAGGACCAAGTTTTGTATTT GTGACCTCAGCTTTGGGAATAAAGGATCTTTTGAAGGCC

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4869/6881 FIGURE 4490

CTCCGCCAGGACCCCCGAGGGCGAGCGCCTGGGGGGGCCCTTGCTCGCGGGAGCGCTGCTGAGGGAGAGTGG TTCTAGTAAATACCGCTTGCTGTTTTTGATGTTGGTGGCTAAGCTCATCCAGTGTATTGTGTTTTGGCCCTCTTC GAGTGAGTGAGAGACAGCATCTCAAAGACAAATTTTGGAATTTTATTTTCTACAAGTTCATTTTCATCTTTGGTG TGCTGAATGTCCAGACAGTGGAAGAGGTGGTCATGTGGTGCCTCTGGTTTGCCGGACTTGTCTTTCTGCACCTGA TGGTTCAGCTCTGCAAGGATCGATTTGAATATCTTTCCTTCTCGCCCACCACGCCGATGAGCAGCCACGGTCGAG TCCTGTCCCTGTTGGTTGCCATGCTGCTTTCCTGCTGGACTGGCGGCCGTCTGCTCCATCACCGGCTACACCC ACGGAATGCACACCTTGGCTTCATGGCTGCAGAGTCTCTTCTTGTGACAGTGAGGACTGCTCATGTGATTTTAC ACTTTGTCATGGAGCTCACTCTCCTGTCCCTGGACCTCATGCACCATATTCACATGTTGTTATTTGGCAACATCT GGTTATCCATGGCCAGCCTGGTCATCTTTATGCAGCTGCGTTACCTGTTTCATGAGGTGCAACGTCGAATTCGTC TCAACAATGACGACTGTGCCATCTGTTGGGACTCCATGCAGGCTGCGCGGAAACTGCCCTGTGGACATCTTTTCC ACAACTCCTGTCTTCGTTCCTGGCTAGAACAAGACACCTCCTGTCCAACATGCAGAATGTCTCTTAATATTGCCG ACAATAATCGTGTCAGGGAAGAACATCAAGGAGAGAACTTGGATGAGAATTTGGTTCCTGTAGCAGCAGCCGAAG TTTCGGTTGAAGTGATGCACACCACCAACATTCTTGGCATTACGCAGGCCAGCAACTCCCAGCTCAATGCAATGG CTCATCAGATTCAAGAGATGTTTCCCCAGGTTCCATACCATCTGGTACTGCAGGACCTCCAGCTGACACGCTCAG TTGAAATAACAACAGACAATATTTTAGAAGGACGGATTCAAGTACCTTTTCCTACACAGCGGTCAGATAGCATCA GACCTGCATTGAACAGTCCTGTGGAAAGGCCAAGCAGTGACCAGGAAGAGGGGAGAAACTTCTGCTCAGACCGAGC GTGTGCCACTGGACCTCAGTCCTCGCCTGGAGGAGACGCTGGACTTCGGCGAGGTGGAAGTGGAGCCCAGTGAGG TGGAAGACTTCGAGGCTCGTGGGAGCCGCTTCTCCAAGTCTGCTGATGAGAGACAGCGCATGCTGGTGCAGCGTA AGGACGAACTCCTCCAGCAAGCTCGCAAACGTTTCTTGAACAAAAGTTCTGAAGATGATGCGGCCTCAGAGAGCT GGCTTCAGAAGCAGCAGACCTCCTAGCGCTCCCTTGCCTTCCTCAGCTGCCTCCTGCGCCCTGTGCCCGACTGAC TGGAGGAGGCCTGTCCCAATTCTGCCCGCTCCATGGAAAAGCGGGCTTGACTGCATTGCCGCTGTATAAAGCATG TGGTCTTATAGTGTTTGGACAGCTGATAAATTTAATCCTTCTTTGTAATACTTTCTATGTGACATTTCTCTTCCC CTTAGAAACACTGCAAATTTTAACTGTAGGTATGATCTCTTCTGGTGTTGACTGGACTGCTTGGGGTGGGGGACG ATCAGGAGGAAGTGAGCAGTCGCCTGCAGCAGGCAGCTTCTACTCCTGCCTCATGCGTACGTCCCACAAAT GGGGTAACATCTGTTATCAAACTGCTGTCGTTGTTGTGGAAGCATGTAGACTGTGCCAGAGGCCAGACCCACGGG CTCATGCACCCCTGAGCCAGCAGGGCATCTTGGAAAAGGAACTCTTGGTTCGATACCTGGAGCAGAGGAGGGGGAA AGTCCAAAGCCGGCTTGATTTCCGTGAACTCTGGTGCTCCTGCATCTCATGAGTGTGCCCCATGGGTCCCCTCCC TTGGTGAAGTAAATTAGGCAGTGCTAAAGCCTGTGGGTTTGGTCCTTGAACAAGATGTGGGCCTTGCAAGATGGG AGAGTAAACCTTGAAGGGCTTTATTAAAGAAATAAAAAAGAACTTTTGTATCTTTTATCCTGGGAGCACTGCGTT AGGTCCCAAATCTCTTCAAATTCTTCACATGTTTAACTTTAAGGATTTGAACCATGAAGTCATAGGTTACAGACC TGTGGTAGTCCTTTTGGGAAGAATCCAGTATTATCCACAATTATTGGCAAAGTTTAAATGTATTTTACATAACGG AAAGTTTTTAGAATGTTGAAAAGTAATTGAAAAAGGTGATAGGTAAATTTTTAGGCAAAGATAATTTATTCAAT GAGCATAGCTATTTGTTTTTTTTTTTATAAA

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LAIETEAELQRVQKVRELELVYARAQLELEVSKAQQLAEVEVKKFKQMTEAIGPSTIRDLAVAGPEMQVKLLQSL
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AAAGGTTCCCCATCTGAGGCGTTTGTTGCAGCTACCTGCACTTCTAGATTCATCTTCTTGTGAGCCCTGGGCTTA GGAGTCACCATGCCAACTGAAGAGTTCATCATCCGCATCCCCCCATACCACTATATCCATGTGCTGGACCAGAAC AGCAACGTGTCCCGTGTGGAGGTCGGGCCAAAGACCTACATCCGGCAGGACAATGAGAGGGTACTGTTTGCCCCC ATGCGCATGGTGACCGTCCCCCCACGTCACTACTGCACAGTGGCCAACCCTGTGTCTCGGGATGCCCAGGGCTTG GTGCTGTTTGATGTCACAGGGCAAGTTCGGCTTCGCCACGCTGACCTCGAGATCCGGCTGGCCCAGGACCCCTTC CCCCTGTACCCAGGGGAGGTGCTGGAAAAGGACATCACCCCTGCAGGTGGTTCTGCCCAACACTGCCCTCCAT CTAAAGGCGCTGCTTGATTTTGAGGATAAAGATGGAGACAAGGTGGTGGCAGGAGATGAGTGGCTTTTCGAGGGA CCTGGCACGTACATCCCCCGGAAGGAAGTGGAGGTCGTGGAGATCATTCAGGCCACCATCATCAGGCAGAACCAG GCTCTGCGGCTCAGGGCCCGCAAGGAGTGCTGGGACCGGGACGGCAAGGAGAGGGTGACAGGGGAAGAATGGCTG GTCACCACAGTAGGGGCGTACCTCCCAGCGGTGTTTGAGGAGGTTCTGGATTTGGTGGACGCCGTCATCCTTACG GAAAAGACAGCCCTGCACCTCCGGGCTCGGCGGAACTTCCGGGACTTCAGGGGAGTGTCCCGCCGCACTGGGGAG GAGTGGCTGGTAACAGTGCAGGACACAGAGGCCCACGTGCCAGATGTCCACGAGGAGGTGCTGGGGGTTGTGCCC ATCACCACCTGGGCCCCCACACTACTGCGTGATTCTCGACCCTGTCGGACCGGATGGCAAGAATCAGCTGGGG GTGTATGTGCTGTCGGAGCAGCAGGGGCTGCTGCTGAGGGCCCCTGCAGCCCCTGGAGGAGGAGGATGAGGAG AAGGTCTCACACCAGGCTGGGGACCACTGGCTCATCCGCGGACCCCTGGAGTATGTGCCATCTGCCAAAGTGGAG GTGGTGGAGGAGCGCCAGGCCATCCCTCTAGACGAGAACGAGGGCATCTATGTGCAGGATGTCAAGACCGGAAAG GTGCGCGCTGTGATTGGAAGCACCTACATGCTGACCCAGGACGAAGTCCTGTGGGAGAAAGAGCTGCCTCCCGGG GTGGAGGAGCTGCTGAACAAGGGGCAGGACCCTCTGGCAGACAGGGGTGAGAAGGACACAGCTAAGAGCCTCCAG CCCTTGGCGCCCCGGAACAAGACCCGTGTGGTCAGCTACCGCGTGCCCCACAACGCTGCGGTGCAGGTGTACGAC TACCGAGAGAGCCGAGCCCGCGTGGTCTTCGGGCCTGAGCTGGTGTCGCTGGGTCCTGAGGAGCAGTTCACAGTG TTCACAGACGTCATCACCATCGAAACGGCGGATCATGCCAGGCTGCAACTGCAGCTGGCCTACAACTGGCACTTT GAGGTGAATGACCGGAAGGACCCCCAAGAGACGCCCAAGCTCTTTTCAGTGCCAGACTTTGTAGGTGATGCCTGC AAAGCCATCGCATCCCGGGTGCGGGGGCCCTGGCCTCTGTCACTTTCGATGACTTCCATAAGAACTCAGCCCGC ATCATTCGCACTGCTGTCTTTGGCTTTGAGACCTCGGAAGCGAAGGGCCCCGATGGCATGGCCCTGCCCAGGCCC CAGAGGACCCGGGACGCCCTGCAACGCAGCGTCCAGCTGGCCATCGAGATCACCACCAACTCCCAGGAAGCGGCG GAAGCCGAGAAAGCTCGCAAGGAACTTTTGGAGCTGGAGGCTCTGAGCATGGCCGTGGAGAGCACCGGGACTGCC AAGGCGGAGGCCGAGTCCCGTGCGGAGGCAGCCCGGATTGAGGGAGAAGGGTCCGTGCTGCAGGCCAAGCTAAAA GCACAGGCCTTGGCCATTGAAACGGAGGCTGAGCTCCAGAGGGTCCAGAAGGTCCGAGAGCTGGAACTGGTCTAT GCCCGGGCCCAGCTGGAGCTGGAGCTGAGCACGCTCAGCAGCTGAGGTGGAGGTGAAGAAGTTCAAGCAG ATGACAGAGGCCATAGGCCCCAGCACCATCAGGGACCTTGCTGTGGCTGGGCCTGAGATGCAGGTAAAACTGCTC CAGTCCCTGGGCCTGAAATCAACCCTCATCACCGATGGCTCCACTCCCATCAACCTCTTCAACACAGCCTTTGGG CTGCTGGGGATGGGCCCGAGGGTCAGCCCCTGGGCAGAAGGGTGGCCAGTGGGCCCAGCCCTGGGGAGGGGATA TCCCCCCAGTCTGCTCAGGCCCCTCAAGCTCCTGGAGACAACCACGTGGTGCCTGTACTGCGC<u>TAA</u>CTCCTGATT

MATEEFIIRIPPYHYIHVLDQNSNVSRVEVGPKTYIRQDNERVLFAPMRMVTVPPRHYCTVANPVSRDAQGLVLF
DVTGQVRLRHADLEIRLAQDFFPLYPGEVLEKDITPLQVVLPNTALHLKALLDFEDKDGDKVVAGDEWLFEGPGT
YIPRKEVEVVEIIQATIIRQNQALRLRARKECWDRDGKERVTGEEWLVTTVGAYLPAVFEEVLDLVDAVILTEKT
ALHLRARRNFRDFRGVSRRTGEEWLVTVQDTEAHVPDVHEEVLGVVPITTLGPHNYCVILDPVGPDGKNQLGQKR
VVKGEKSFFLQPGEQLEQGIQDVYVLSEQQGLLLRALQPLEEGEDEEKVSHQAGDHWLIRGPLEYVPSAKVEVVE
ERQAIPLDENEGIYVQDVKTGKVRAVIGSTYMLTQDEVLWEKELPPGVEELLNKGQDPLADRGEKDTAKSLQPLA
PRNKTRVVSYRVPHNAAVQVYDYREKRARVVFGPELVSLGPEEQFTVLSLSAGRPKRPHARRALCLLLGPDFFTD
VITIETADHARLQLQLAYNWHFEVNDRKDPQETAKLFSVPDFVGDACKAIASRVRGAVASVTFDDFHKNSARIIR
TAVFGFETSEAKGPDGMALPRPRDQAVFPQNGLVVSSVDVQSVEPVDQRTRDALQRSVQLAIEITTNSQEAAAKH
EAQRLEQEARGRLERQKILDQSEAEKARKELLELEALSMAVESTGTAKAEAESRAEAARIEGEGSVLQAKLKAQA
LAIETEAELQRVQKVRELELVYARAQLELEVSKAQQLAEVEVKKFKQMTEAIGPSTIRDLAVAGPEMQVKLLQSL
GLKSTLITDGSTPINLFNTAFGLLGMGPEGQPLGRRVASGPSPGEGISPQSAQAPQAPGDNHVVPVLR

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4881/6881 FIGURE 4502

 $\tt GGCACGAGGCTGCCCTAGTGGCCT{\color{red}\underline{\textbf{ATG}}} TCCCTTGCTCGGGGGCCATGGAGACACTGCGGCCAGTACGGCGGCGCCCT$ $\tt CTGTCTGAAGAAGGGGAAGTGACCTCCGGCCTCCAGGCTCTGGCCGTGGAGGATACCGGAGGCCCCTCTGCCTCG$ GCCGGTAAGGCCGAGGACGAGGGGGAAGGAGGCCGAGAGGAGCCGAGGGGGTCCGGGGGCGAGGAGGCG ${\tt CAGGGAGAAGTCCCCAGCGCTGGGGGAGAAGAGCCTGCCGAGGAGGACTCCGAGGACTGGTGCCCTGCAGC}$ AGCGAAGAGAGAGAGATCCGATGAGGAGCCGGAGGCCAAAGAAGAGGAAAGAGGAAAAACCACATGCCCACGGAA TTTGATTTTGATGATGAGCCAGTGACACCAAAGGACTCCCTGATTGACCGGAGACGCACCCCAGGAAGCTCAGCC ${\tt ATCCTTCGTACCGGGAGGGACCTCTTCAGCCTGGACTCGGAGGACCCCAGCCCCGCCAGCCCCCACTCCGATCC}$ ${\tt TCCGGGAGTAGTCTCTTCCCTCGGCAGCGGAAATAC} \underline{{\tt TGA}} \underline{{\tt TTCCCACTGCTCCTGCCTCTAGGGTGCAGTGTCCGT}}$ ACCTGCTGGAGCCTGGGCCCTCCTTCCCCAGCCCAGACATTGAGAAACTTGGGAAGAAGAGAGAAACCTCAAGCT GAGAGTGTGTGAGTGTTTTCTATTGAACACCTATTCAGAGACCTGGACTGAATTTTCTGAGTCTGAAATAA

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4882/6881 FIGURE 4503

MSLARGHGDTAASTAAPLSEEGEVTSGLQALAVEDTGGPSASAGKAEDEGEGGREETEREGSGGEEAQGEVPSAG GEEPAEEDSEDWCVPCSDEEVELPADGQPWMPPPSEIQRLYELLAAHGTLELQAEILPRRPPTPEAQSEEERSDE EPEAKEEEEEKPHMPTEFDFDDEPVTPKDSLIDRRRTPGSSARSQKREARLDKVLSDMKRHKKLEEQILRTGRDL FSLDSEDPSPASPPLRSSGSSLFPRQRKY

 ${\tt CCCAACCTCGACGGTCGCCGTGGCCCGGTCGCGTTGCCTTGGAGAAGAAGACAAAGAGCAAGGGGCCCTACAT}$ $\tt CTGCGCTCTGTGCGCCAAGGAGTTCAAGAACGGCTACAATCTCCGGAGGCACGAAGCCATCCACACGGGAGCCAA$ GGCCGGCCGGGTCCCCTCGGGTGCTATGAAGATGCCGACCATGGTGCCCCTGAGCCTCCTGAGCGTGCCCCAGCT GACCACGACCGCCTCGGGGAAGCCATCCGGAAGAACCATGCCTGCGAGATGTGTGGCAAGGCCTTCCGCGACGT $\tt CTACCACCTGAACCGACACAAGCTGTCGCACTCGGACGAGAAGCCCTACCAGTGCCCGGTGTGCCAGCAGCGCTT$ CAAGCGCAAGGACCGCATGAGCTACCACGTGCGCTCACATGACGGCGCTGTGCACAAGCCCTACAACTGCTCCCA CTGTGGCAAGAGCTTCTCCCGGCCGGATCACCTCAACAGTCACGTCAGACAAGTGCACTCAACAGAACGGCCCTT CAAATGTGAGAAATGTGAGGCAGCTTTCGCCACGAAGGATCGGCTGCGGGCGCACACAGTACGACACGAGGAGAA AGTGCCATGTCACGTGTGTGGCAAGATGCTGAGCTCGGCTTATATTTCGGACCACATGAAGGTGCACAGCCAGGG ${\tt AGAGTCCCTTGGTACAAGCTCCTCTCTCCCCCCTCTTTTCCCACCAACTCCTATTTCCCTACCAACCAAGGAGCCTC}$ CAGAAGGAAGGAGGAAGAATGTTTTCTTAGGGGAATTC

TCGCCGTGGCCCCGGTCGCGTCTGCCTTGGAGAAGAAGACAAAGAGCAAGGGGCCCTACATCTGCGCTCTGTGCG CCTCGGGTGCTATGAAGATGCCGACCATGGTGCCCCTGAGCCTCCTGAGCGTGCCCCAGCTGAGCGGAGCCGGCG CGGGGAAGCCATCCGGAAGAACCATGCCTGCGAGATGTGTGGCAAGGCCTTCCGCGACGTCTACCACCTGAACC GACACAAGCTGTCGCACTCGGACGAGAAGCCCTACCAGTGCCCGGTGTGCCAGCAGCGCTTCAAGCGCAAGGACC GCATGAGCTACCACGTGCGCTCACATGACGGCGCTGTGCACAAGCCCTACAACTGCTCCCACTGTGGCAAGAGCT TCTCCCGGCCGGATCACCTCAACAGTCACGTCAGACAAGTGCACTCAACAGAACGGCCCTTCAAATGTGAGAAAT GTGAGGCAGCTTTCGCCACGAAGGATCGGCTGCGGGCGCACACAGTACGACGAGGAGAAAGTGCCATGTCACG TGTGTGGCAAGATGCTGAGCTCGGCTTATATTTCGGACCACATGAAGGTGCACAGCCAGGGTCCTCACCATGTCT GTGAGCTCTGCAACAAGGCTTCACCACGGCAGCATACCTGCGCATCCACGGGGTGAAGGACCACGGGCTCCAGG GGCAGCAGTAGCAGCCCCTCCCACAGCTGTGGGCTCCCTCTCGGGGGCGGAGGGGGTGCCTGTGAGCTCTCAGCC ACTTCCCTCCCAACCCTGGTGAGCTCCAAGTTGGTTGCGGGGGAGAGGGGGAGAATGGAGTAGAGTCCCTTGGTAC AAGAAATGTTTTCTTAGGGGAATTCGCTAGGTTTTAACGATTTGTTTCTCCTGCTCCTCTTCTGTCAGACCTGAC CCACTGCCGTACCCCTCTCTCTGTAAGCCCATGCCCTGTCTTCCCAGGGACTTGTGAGCCTCTTCCCTCG GTGAGGTTTGAGGAGGGCAGAAGCAGGCCCGCAAAGGTTGTACCTTCATAAGGTGGTATGGGGGGTTGGGGTC AGGCCCTGAACATCGTCCTACTTGAGAATCTGTCAGGGGAAAAAGTCAAGGGGAGCAGGAGGAAGACCCAGGAGG GCCAGAGGCAGAGAAGAGATGGAGTCTTAGGGGCCAGGGTGAGCGAGGGGTCCAGGGCCTAGAGGTGCTTCCTGG GGGCGGGGAATGCAGCCAGTGTCCCCCTCCCCTCTTCCACCCCAGCTCCAGCCCTGGTCTTGTCTTTTCATCCC TCTTCCCCACGACAGAAGAAGTTGTGGCCCTGGCCATGTCATCGTGTTCCTGTGTCCCCTGCATGTACCCCACCC TCCACCCTTCCTTTTGCGCGGACCCCATTACAATAAATTTTAAATA

MKMPTMVPLSLLSVPQLSGAGGGGEAGAGGGAAAVAAGGVVTTTASGKRIRKNHACEMCGKAFRDVYHLNRHKL SHSDEKPYQCPVCQQRFKRKDRMSYHVRSHDGAVHKPYNCSHCGKSFSRPDHLNSHVRQVHSTERPFKCEKCEAA FATKDRLRAHTVRHEEKVPCHVCGKMLSSAYISDHMKVHSQGPHHVCELCNKGFTTAAYLRIHAVKDHGLQAPRA DRILCKLCSVHCKTPAQLAGHMQTHLGGAAPLSRETPPSHSPPAEGDPRTHQVLVRFVQWRRQRQRRQRQQRQQ

GGGCGGGCCCAAGGAGGGAGTGGA<u>ATG</u>GCCGCGGGCGGCTCGACGCAGAGGCGACGCGACATGGCGGCAGCT TCAGCGGCGGCGATCTCAGGAGCTGGTCGCTGTCGGCTAAGCAAGATTGGAGCTACTCGTCGTCCACCTCCAGCT GGCATGGACAGCTGCTCTAGAGATTGCTAACTGGAGGAACCACCAGGAGACTCTCAAATACCAGTTTGATGCC TTCTATGGGGAGAGGAGTACTCAGCAGGACATCTATGCAGGTTCAGTGCAGCCCATCCTAAGGCACTTGCTGGAA GGGCAGAATGCCAGTGTGCTTGCCTATGGACCCACAGGAGCTGGGAAGACGCACACAATGCTGGGCAGCCCAGAG TGGGCCCTTTCTGTCACCATGTCTTACCTAGAGATCTACCAGGAGAAGGTATTAGACCTCCTGGACCCTGCTTCG GGAGACCTGGTAATCCGAGAAGACTGCCGGGGGAATATCCTGATTCCGGGTCTCTCCCAGAAGCCCATCAGTAGC TTTGCTGATTTTGAGCGGCACTTCCTGCCAGCCAGTCGAAATCGGACTGTAGGAGCCACCCGGCTCAACCAGCGC TCCTCCCGCAGTCATGCTGTCCTGGTCAAGGTGGACCAGCGGGAACGTTTGGCCCCATTTCGCCAGCGAGAG GGAAAACTCTACCTGATTGACTTGGCTGGGTCAGAGGACAACCGGCGCACAGGCAACAAGGGCCTTCGGCTAAAA GTACCTTATCGGGACAGCAAGCTCACTCGCCTATTGCAGGACTCTCTGGGTGGCTCAGCCCACAGTATCCTTATT GCCAACATTGCCCCTGAGAGACGCTTCTACCTAGACACAGTCTCCGCACTCAACTTTGCTGCCAGGTCCAAGGAG GCTCCAGCCTCTGCCTCCCAGAAACTCAGCCCCCTACAGAAGCTAAGCAGCATGGACCCGGCCATGCTGGAGCGC CTCCTCAGCTTGGACCGTCTGCTTGCCTCCCAGGGGAGCCAGGGGGCCCCTCTGTTGAGTACCCCAAAGCGAGAG CGGATGGTGCTAATGAAGACAGTAGAAGAAGAAGGACCTAGAGATTGAGAGGCTTAAGACGAAGCAAAAAGAACTG GAGGCCAAGATGTTGGCCCAGAAGGCTGAGGAAAAGGAGAACCATTGTCCCACAATGCTCCGGCCCCTTTCACAT TCCCCAAATGCCGAGATCCACATCCTGAAGAATAAAGGCCGGAAGAGAAAGCTGGAGTCCCTGGATGCCCTAGAG CCTGAGGAGAGGCTGAGGACTGCTGGGAGCTACAGATCAGCCCGGAGCTACTGGCTCATGGGCGCCAAAAAATA CTGGATCTGCTGAACGAAGGCTCAGCCCGAGATCTCCGCAGTCTTCAGCGCATTGGCCCGAAGAAGGCCCAGCTA ATCGTGGCTGGCGGAGCTCCACGGCCCCTTCAGCCAGGTGGAGGACCTGGAACGCGTGGAGGGCATAACGGGG AAACAGATGGAGTCCTTCCTGAAGGCAAACATCCTGGGTCTCGCCGGCCAGCGCTGTGGCGCCTCC<u>TGA</u>CCG TCGTCTCCTCACTCCGCCTTTTCAAATTTTTGTATAACCCCGTGTTGTGTAAATACAGTTTTTGCTCCGGTG

MAAGGSTQQRREMAAASAAAISGAGRCRLSKIGATRRPPPARVRVAVRLRPFVDGTAGASDPPCVRGMDSCSLE IANWRNHQETLKYQFDAFYGERSTQQDIYAGSVQPILRHLLEGQNASVLAYGPTGAGKTHTMLGSPEQPGVIPRA LMDLLQLTREEGAEGRPWALSVTMSYLEIYQEKVLDLLDPASGDLVIREDCRGNILIPGLSQKPISSFADFERHF LPASRNRTVGATRLNQRSSRSHAVLLVKVDQRERLAPFRQREGKLYLIDLAGSEDNRRTGNKGLRLKESGAINTS LFVLGKVVDALNQGLPRVPYRDSKLTRLLQDSLGGSAHSILIANIAPERRFYLDTVSALNFAARSKEVINRPFTN ESLQPHALGPVKLSQKELLGPPEAKRARGPEEEEIGSPEPMAAPASASQKLSPLQKLSSMDPAMLERLLSLDRLL ASQGSQGAPLLSTPKRERMVLMKTVEEKDLEIERLKTKQKELEAKMLAQKAEEKENHCPTMLRPLSHRTVTGAKP LKKAVVMPLQLIQEQAASPNAEIHILKNKGRKRKLESLDALEPEEKAEDCWELQISPELLAHGRQKILDLLNEGS ARDLRSLQRIGPKKAQLIVGWRELHGPFSQVEDLERVEGITGKQMESFLKANILGLAAGQRCGAS

GTCCTGAGCAGCCAACACCAGCCCAGACAGCTGCAAGTCACCATCGAAGGCCTGGAAGGCCTGGCGCTGCTGCTGC $\tt CGCCCGTCACCCTGGCAGCCCTGGTGGACAGCTGGCTCCGAGAGGACTGCCCAGGGCTCAACTACGCAGCCTTGG$ TCAGCGGGCCAGGCCCTCGCAGGCGCGCTGTGGGCCAAATCCCCTGGGGTACTGGCAGGCCAGCCTTTCTTCG ATGCCATATTTACCCAACTCAACTGCCAAGTCTCCTGGTTCCTCCCCGAGGGATCGAAGCTGGTGCCGGTGGCCA GAGTGGCCGAGGTCCGGGGCCCTGCCCACTGCCTGCTGCTGGGGGAACGGGTGGCCCTCAACACGCTGGCCCGCT GCAGTGGCATTGCCAGTGCCGCCGCTGCAGTGGAGGCCGCCAGGGGGGCCGGCTGGACTGGCACGTGGCAG GCTACGACCTGGGAGGGCTGGTGATGGTGAAGGATAACCATGTGGTGGCCGCCGGTGGCGTGGAGAAGGCGGTGC GGGCGGCCAGACAGGCGGCTGACTTCACTCTGAAGGTGGAATGCAGCAGCCTGCAGGAGGCCGTGCAGG CAGCTGAGGCTGGTGCCGACCTTGTCCTGGACAACTTCAAGCCAGAGGAGCTGCACCCCACGGCCACCGTGC TGAAGGCCCAGTTCCCGAGTGTGGCTGTGGAAGCCAGTGGGGGCATCACCCTGGACAACCTCCCCCAGTTCTGCG GGCCGCACATAGACGTCATCTCCATGGGGATGCTGACCCAGGCGGCCCCAGCCCTTGATTTCTCCCTCAAGCTGT TTGCCAAAGAGGTGGCTCCAGTGCCCAAAATCCAC<u>TAG</u>TCCTAAACCGGAAGAGGATGACACCGGCCATGGGTTA ACGTGGCTCCTCAGGACCCTCTGGGTCACACATCTTTAGGGTCAGTGGCCCAATGGGGCACATTTGGCACTAGCTT GAGCCCAACTCTGGCTCTGCCACCTGCTGCTCTGTGACCTGTCAGGGCTGACTTCACCTCTGCTCATCTCAGTT TCCTAATCTGTAAAATGGGTCTAATAAAGGATCAACC

MDAEGLALLLPPVTLAALVDSWLREDCPGLNYAALVSGAGPSQAALWAKSPGVLAGQPFFDAIFTQLNCQVSWFL PEGSKLVPVARVAEVRGPAHCLLLGERVALNTLARCSGIASAAAAAVEAARGAGWTGHVAGTRKTTPGFRLVEKY GLLVGGAASHRYDLGGLVMVKDNHVVAAGGVEKAVRAARQAADFTLKVEVECSSLQEAVQAAEAGADLVLLDNFK PEELHPTATVLKAQFPSVAVEASGGITLDNLPQFCGPHIDVISMGMLTQAAPALDFSLKLFAKEVAPVPKIH

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4890/6881 FIGURE 4511

GCCTCGGGAGGTGGTGAGTGACCTGGCCCCAGTGCTGCGTCCTTATCAGCCGAGCCGGTCCCAGCTCTTGCTCC GCACAACAGCAGTGCAGACACCCACCTCCGGAGAGCCTTTGGTCTCTACTAGCGAGCCCCTGAGCTCAAAGATGT ACACCACTTCAATAACAAGTGACCCTAAGGCCGACAGCACTGGGGACCAGACCTCAGCCCTACCTCCAACTT ${\tt CCATCAATGAGGGATCCCCTCTTTGGACTTCCATTGGTGCCAGCACTGGTTCCCCTTTACCTGAGCCAACAACCT}$ ACCAGGAAGTTTCCATCAAGATGTCATCAGTGCCCCAGGAAACCCCTCATGCAACCAGTCATCCTGCTGTTCCCA TAACAGCAAACTCTCTAGGATCCCACACCGTGACAGGTGGAACCATAACAACGAACTCTCCAGAAACCTCCAGTA GGACCAGTGGAGCCCCTGTTACCACGGCAGCTAGCTCTCTGGAGACCTCCAGAGGCACCTCTGGACCCCCTCTTA ${\tt CCATGGCAACTGTCTCTGGAGACTTCCAAAGGCACCTCTGGACCCCCTGTTACCATGGCAACTGACTCTCTGG}$ AGACCTCCACTGGGACCACTGGACCCCTGTTACCATGACAACTGGCTCTCTGGAGCCCTCCAGCGGGGCCAGTG GACCCCAGGTCTCTAGCGTAAAACTATCTACAATGATGTCTCCAACGACCTCCACCAACGCAAGCACTGTGCCCT TCCGGAACCCAGATGAGAACTCACGAGGCATGCTGCCAGTGGCTGTGTGGCCCTGCTGGCGGTCATAGTCC TCGTGGCTCTGCTGCTGCTGGCGCCGGCGGCAGAAGCGGCGGACTGGGGCCCTCGTGCTGAGCAGAGGTGGCA AGCGTAACGGGGTGGTGGACGCCTGGGCCTGGGCCAGCCCAGGTCCCTGAGGAGGGGGGCCGTGACAGTGACCGTGG GAGGGTCCGGGGGCGACAAGGGCTCTGGGTTCCCCGATGGGGAGGGGTCTAGCCGTCGGCCCACGCTCACCACTT TCTTTGGCAGACGGAAGTCTCGCCAGGGCTCCCTGGCGATGGAGGAGCTGAAGTCTGGGTCAGGCCCCAGCCTCA CCCTCTCACCATCCCACTGCCCCCTCGCTCCCATGTTTCCACCCGGCACCCTGATCCTCACCCGAATCTCCTTTT TTTTTTTTTTTTGAGACAGAGTTTCGCTTTGTCGCCCAGGCTGGAGTGCAATGCACGATCTCAGTTCACTGCAAC GCCCAGCTGCTTTTTTGTATTTTTGGTAGAGATGGGGTTTCACCATGTTGGCTAGGCTGGTCTCAAACTCCTGAC CTCAGGTGATCTACCTGCCTCAGCCTCCCAAAGTGCTGAGATTACAGACATGAGCCTCCGCGCCTTGCCTCCA CCCACCTCTTCACTCTGAATCCTCATGAGGCTTCTCAGCCCTGGATTTCCTGCTGCCATCCTCACCCAGCACCCA CCCC

MATLLLLLGVLVVSPDALGSTTAVQTPTSGEPLVSTSEPLSSKMYTTSITSDPKADSTGDQTSALPPSTSINEGS PLWTSIGASTGSPLPEPTTYQEVSIKMSSVPQETPHATSHPAVPITANSLGSHTVTGGTITTNSPETSSRTSGAP VTTAASSLETSRGTSGPPLTMATVSLETSKGTSGPPVTMATDSLETSTGTTGPPVTMTTGSLEPSSGASGPQVSS VKLSTMMSPTTSTNASTVPFRNPDENSRGMLPVAVLVALLAVIVLVALLLLWRRRQKRRTGALVLSRGGKRNGVV DAWAGPAQVPEEGAVTVTVGGSGGDKGSGFPDGEGSSRRPTLTTFFGRRKSRQGSLAMEELKSGSGPSLKGEEEP LVASEDGAVDAPAPDEPEGGDGAAP

GGTAACTTCTTGATGTTGCCGTGGCATTTGTAAACTGTCATGGTGCTGGTAGGAGTGTAGCAGGGAGGATGATGG GAGGTCAGTCTTGTCTCTATTTTGGTTTTTGGTGGGTTTTTGGCCAGCTCCTTCACTGCAACCTGTTTTATCAGCAA GGTCTTTATGACTGGTATTTTGTGCTGACCTTCTATGTCATCCTGTGACTTAGAATGCCTTAACCATCAGGGAAT GCAGCCCAGTAGTTTCAGCCTCATTTTTCCCGGCTCCTATTTAAGATGGAGTTGCTCTGGTTCACACACCTCTGA CATGATCATTGCCCACTGCGGCTTCCACCTCCCGGGTTCAAGAGATCCTCCTGCCTCACCCTCCCAAGGTGCTGG GGCTGGTCTCAAACTCCTGGGCTCAAGCAATCCTTCTGTCTCAGCCTCCCAAAGTACTGGGATTACAGGCATGTC CCACCATGCCCAGACTAATATTTACTTTTAATCAGACTAAGATAGGGTTACTACTTGAGTTGCTATGGCTCCAGC TGAAAGAAGCCCGTGCAGTCATATCACGCGTAAACATTTGCTTTATGCTAAAAATATGGTGGACCTGGCATTAC AGCTATTACAAATCTCCTAAGATGTCTCGGGTAGTGTATTAGTTACTTTTCATACTGCTATGAAGAAATACTGGA AACTGGGTAATTTATAAAGAAAAGAGGTTTAATGTACTCACAGTTCCACAAGGCTGGAGAGGCCTCAGAATCAT GGTGGAAGGCAAGGAGCAAAAAGGTATGTCTTCCATGGCAGCAGGCAAGAGAGCACGTGCAGGGAAACTGCCCTT TATAAAACCATCAGATTTAGTGAGATGTATTCACTATCACGAGAACAGTATGGGAAAAACCTGCCCCCATGATTC GATTACCTCCTACCGGGTCCCTCCCACGACACATGGGGATTATGGGAACTACAATTCAAGATGAAATTTGGGTGG GGACGCAGCCAAACCATATCGGGTAGCAACAACCTAGGGTCAGTTTTGCAGGTGGTAAAGCCATTTACCAAGATA GTTGTAGGTAAAGAAGGGCAGATTTATTAGAGAAAATTGTGAAAAATATGTTGCAGTGGGCAGCTCAGCAGAGAAGG GGCTACCTGCAAAGAGGCAAGGGCTGGAGGAAAGTTTTATAGGGTCCTGCTGAAGGGTGCTACGTGTGGAATGAG GTCATTGTGCCCGCAGGTTGTTTGTGATTAGCTGTTTCTAACAATTGTTCATACAATAATTGTTCATTATTGTTC GGAAACTTCATTCATATCTTCAACACAAATTGTAGGTAGCCTGTTTTTTAAAACATTTATTCAACAAATAT TTAGTCCAAGCCACTATTACTTATTACCTTCTCTACTATTGTATGGACTTTTAACTATCTCTGACACTATTCACT ATTCTTCCACATTCTCTATTATTTATACCTATGGTAAAATTTGCCAGTTTGACCATACAACTAATACTCACAGGG AATATATAGAGTCTAGAAGAAAATATACAGGTCCTTAAAGGCTGCCCTGCCAACAAAACCATAACGCAGGAACAA ACATCACAACTATGCCAAATAATCAATCCTACAATGTCCAAAATTTTACTTTAAAACTGGAATTTCCAGACTTCC TATTTATTTATTTGAGACAGAGTTTCGCTCTTGTTGCAGTGAGCCAGGATCATGCCATTGCACTCCAGCCT

MASAKSLDRWKARLLEGGSTALTYALVRAEVSFPAEVAPVRQQGSVAGARAGVVSLLGCRSSWTAAMELSAEYLR EKLQRDLEAEHVLPSPGGVGQVRGETAASETQVLYRVMRCVTAANQVFFSEAVLTAANERVGVLLGSLDPSMTIH CDMVITYGLDQLENCQTCGTDYIISVLNLLTLIVEQINTKLPSSFVEKLFIPSSKLLFLRYHKEKEVVAVARAVY QAVLSLKNIPVLETAYKLILGEMTCALNNLLHSLQLPESCSEIKHEAFKNHVFNVDNAKFVVKFDLSALTTIGNA KNSLIGVSL

TCAGCGGGCGAGTCCCCGGCTCCTCCAGCTCCTTCCTCCTCCTCCTCCTCCACCTCCGGCTTTTGGGGG GCCGGCCAAGGCCGACCAGTGCTATGAAGATGTGCGCGTCTCACAGACCACCTGGGACAGTGGCTTCTGTGCTGT TGGACGTGTGGACAAGAATGCGCCCACGGTCTGTGGCCACACAGCCCCTGTGCTAGACATCGCCTGGTGCCCGCA CAATGACAACGTCATTGCCAGTGGCTCCGAGGACTGCACAGTCATGGTGTGGGAGATCCCGGATGGGGGCCTGAT GCTGCCCCTGCGGGAGCCCGTCGTCACCCTGGAGGGCCACACCAAGCGTGTGGGCATTGTGGCCTGGCACACCAC AGCCCAGAACGTGCTGCTCAGTGCAGGTTGTGACAACGTGATCATGGTGTGGGACGTGGGCACTGGGGCCGCCAT GCTGACACTGGGCCCAGAGGTGCACCCAGACACGATCTACAGTGTGGACTGGAGCCGAGATGGAGGCCTCATTTG ${\tt CCACGAGGGGACCCGGCCCGTGCGTGCAGTGTTCGTGTCGGAGGGGAAGATCCTGACCACGGGCTTCAGCCGCAT}$ GAGTGAGCGGCAGGTGGCGCTGTGGGACACAAAGCACCTGGAGGAGCCGCTGTCCCTGCAGGAGCTGGACACCAG ${\tt CAGCGGTGTCCTGCCCTTCTTTGACCCTGACACCAACATCGTCTACCTCTGTGGCAAGGGTGACAGCTCAAT}$ CCGGTACTTTGAGATCACTTCCGAGGCCCCTTTCCTGCACTATCTCTCCATGTTCAGTTCCAAGGAGTCCCAGCG GGGCATGGGCTACATGCCCAAACGTGGCCTGGAGGTGAACAAGTGTGAGATCGCCAGGTTCTACAAGCTGCACGA $\tt CGCAGGGCCCGACCCTCACGGCTGAGGAGTGGCTGGGGGGTCGGGATGCTGGGCCCCTCCTCATCTCCCT$ AGCACCAGAGGCCAGTGCCACCTCCCAGCTCGGATGCCGTGTCTCGGCTGGAGGAGGAGATGCGGAAGCTCCAGGC TCCAGCAGGGTCAGCCATTCACACCCATCCACTCCCATTCCCAGCCACATGGCAGAGAAAAAAATCATAA **GGGGGGGA**

MSRQVVRSSKFRHVFGQPAKADQCYEDVRVSQTTWDSGFCAVNPKFVALICEASGGAFLVLPLGKTGRVDKNAP
TVCGHTAPVLDIAWCPHNDNVIASGSEDCTVMVWEIPDGGLMLPLREPVVTLEGHTKRVGIVAWHTTAQNVLLSA
GCDNVIMVWDVGTGAAMLTLGPEVHPDTIYSVDWSRDGGLICTSCRDKRVRIIEPRKGTVVAEKDRPHEGTRPVR
AVFVSEGKILTTGFSRMSERQVALWDTKHLEEPLSLQELDTSSGVLLPFFDPDTNIVYLCGKGDSSIRYFEITSE
APFLHYLSMFSSKESQRGMGYMPKRGLEVNKCEIARFYKLHERRCEPIAMTVPRKSDLFQEDLYPPTAGPDPALT
AEEWLGGRDAGPLLISLKDGYVPPKSRELRVNRGLDTGRRRAAPEASGTPSSDAVSRLEEEMRKLQATVQELQKR
LDRLEETVQAK

GCCACGAAGGCCGGAGAGCCGGAACCGGAGTCGCAGCGGCGGAGACCCCTGTGCGGTGCGGAGGGGGGCGGCGCCC $\tt CCGACTCTGACCCGCGCGGGGGGGGGGCC\underline{ATG}GCGGAGATCAGCGACCTGGACCGGCAGATCGAGCAGCTGCGTC$ GCTGCGAGCTCATCAAGGAGAGCGAAGTCAAGGCCCTGTGCGCTAAGGCCAGAGAGATCTTGGTAGAGGAGAGACA ACGTGCAGAGGGTGGACTCGCCAGTCACAGTGTGCGGCGACATCCATGGACAATTCTATGACCTCAAAGAGCTGT TCAGAGTAGGTGGCGACGTCCCTGAGACCAACTACCTCTTCATGGGGGACTTTGTGGACCGTGGCTTCTATAGCG TCGAAACGTTCCTCCTGCTGCTGCACTTAAGGTTCGCTATCCTGATCGCATCACACTGATCCGGGGCAACCATG AGAGTCGCCAGATCACGCAGGTCTATGGCTTCTACGATGAGTGCCTGCGCAAGTACGGCTCGGTGACTGTGTGGC GCTACTGCACTGAGATCTTTGACTACCTCAGCCTGTCAGCCATCATCGATGGCAAGATCTTCTGCGTGCACGGGG GCCTCTCCCCCCCCATCCAGACCCTGGATCAGATTCGGACAATCGACCGAAAGCAAGAGGTGCCTCATGATGGGC CCATGTGTGACCTCCTCTGGTCTGACCCAGAAGACACCACAGGCTGGGGCGTGAGCCCCCGAGGAGCCGGCTACC TATTTGGCAGTGACGTGGCCCAGTTCAACGCAGCCAATGACATTGACATGATCTGCCGTGCCCACCAACTGG TGATGGAAGGTTACAAGTGGCACTTCAATGAGACGGTGCTCACTGTGTGGTCGGCACCCAACTACTGCTACCGCT GTGGGAATGTGGCAGCCATCTTGGAGCTGGACGAGCATCTCCAGAAAGATTTCATCATCTTTGAGGCTGCTCCCC $\texttt{AAGAGACACGGGGCATCCCCTCCAAGAAGCCCGTGGCCGACTACTTCCTG} \underline{\textbf{TGA}} \texttt{CCCCGCCCGGCCCCTGCCCCCT}$

MAEISDLDRQIEQLRRCELIKESEVKALCAKAREILVEESNVQRVDSPVTVCGDIHGQFYDLKELFRVGGDVPET
NYLFMGDFVDRGFYSVETFLLLLALKVRYPDRITLIRGNHESRQITQVYGFYDECLRKYGSVTVWRYCTEIFDYL
SLSAIIDGKIFCVHGGLSPSIQTLDQIRTIDRKQEVPHDGPMCDLLWSDPEDTTGWGVSPRGAGYLFGSDVVAQF
NAANDIDMICRAHQLVMEGYKWHFNETVLTVWSAPNYCYRCGNVAAILELDEHLQKDFIIFEAAPQETRGIPSKK
PVADYFL

AGTACCGGGTACGCAGGGGTGCCTCAACCACACTCCGTCCACGGACTCTCCGTTATTTTAGGAGGTCCCTGGCCA AAGATTTATTTCTCTTGACAACCAAGGGCCTCCGTCTGGATTTCCAAGGAAGAATTTCCTCTGAAGCACCGGAAC ${\tt TTGCTACTACCAGCACC{\color{blue} {\bf ATG}}{\tt CCCTACCAATATCCAGCACTGACCCCGGAGCAGAAGAAGGAGCTGTCTGACATCG}}$ CTCACCGCATCGTGGCACCTGGCAAGGGCATCCTGGCTGCAGATGAGTCCACTGGGAGCATTGCCAAGCGGCTGC AGTCCATTGGCACCGAGAACACCGAGGAGAACCGGCGCTTCTACCGCCAGCTGCTGACAGCTGACGACCGCG TGAACCCCTGCATTGGGGGTGTCATCCTCTTCCATGAGACACTCTACCAGAAGGCGGATGATGGGCGTCCCTTCC $\verb|CCCAAGTTATCAAATCCAAGGGGGGTGTTGTGGGCATCAAGGTAGACAAGGGCGTGGTCCCCCTGGCAGGGACAA| \\$ ATGGCGAGACTACCACCCAAGGGTTGGATGGGCTGTCTGAGCGCTGTGCCCAGTACAAGAAGGACGGAGCTGACT TCGCCAAGTGGCGTTGTGTGCTGAAGATTGGGGAACACACCCCCTCAGCCCTCGCCATCATGGAAAATGCCAATG TTCTGGCCCGTTATGCCAGTATCTGCCAGCAGAATGGCATTGTGCCCATCGTGGAGCCTGAGATCCTCCCTGATG ACCACATCTACCTGGAAGGCACCTTGCTGAAGCCCAACATGGTCACCCCAGGCCATGCTTGCACTCAGAAGTTTT $\verb|CTCATGAGGAGATTGCCATGGCGACCGTCACAGCGCTGCGCCGCACAGTGCCCCCCGCTGTCACTGGGATCACCT|\\$ ${\tt ACCTGAAGGCTGCGCAGGAGGAGTATGTCAAGCGAGCCCTGGCCAACAGCCTTGCCTGTCAAGGAAAGTACACTC}$ $\texttt{CGAGCGGTCAGGCTGCTGCCAGCGAGTCCCTCTTCGTCTCTAACCACGCCTAT} \underline{\textbf{TAA}} \\ \texttt{GCGGAGGTGTTCC} \\$ TTTCCGGCACACTGCCAAATAAACAGCTATTTAAGGGGG

MPYQYPALTPEQKKELSDIAHRIVAPGKGILAADESTGSIAKRLQSIGTENTEENRRFYRQLLLTADDRVNPCIG GVILFHETLYQKADDGRPFPQVIKSKGGVVGIKVDKGVVPLAGTNGETTTQGLDGLSERCAQYKKDGADFAKWRC VLKIGEHTPSALAIMENANVLARYASICQQNGIVPIVEPEILPDGDHDLKRCQYVTEKVLAAVYKALSDHHIYLE GTLLKPNMVTPGHACTQKFSHEEIAMATVTALRRTVPPAVTGITFLSGGQSEEEASINLNAINKCPLLKPWALTF SYGRALQASALKAWGGKKENLKAAQEEYVKRALANSLACQGKYTPSGQAGAAASESLFVSNHAY

CGATGGTGGCCGGGGGGGTGTTCCCCGGACTCTTCCTCCTCCAAGAACACGCTCCAGCGGCTGCCCCAGC TACGCTGGGAGGAGGCCGACGCAGTCATTGTCTCAGCCAGGCTGGTGTCCTCTGTCCAGGCCATCATCGCCTCCA CTGCCGGCTACATCGTCTCCACCTCCTGCAAGCACATCATTGATGACCAACACTGGCTGTCCTCTGCCTACACGC AATTTGCTGTGCCCTACTTCATCTACGACATCTACGCCATGTTCCTCTGTCACTGGCACAAGCACCAGGTCAAAG GGCATGGAGGGGACGACGGCCAGAGCCCCGGGCAGCACGTGGGCCATAGCGCGTGGCTACCTGCACAAGG AGTTCCTCATGGTGCTCCACCATGCCGCCATGGTGCTGGTGTGCTCCCACTCTCAGTGGTGTGGCGACAGGGTA AGGGAGACTTCTTTCTGGGTTGCATGTTGATGGCAGAGGTCAGCACGCCCTTCGTCTGCCTTGGCAAGATCCTCA GGGTGCTGCTCTTTCCCTACCTGTACTGGGCCTACGGGCGCCATGCCGGCCTGCCCCTGCTGGCCGTGCCCCTGG CGGGACCCTCCCCTCCCCACCCCCACCCCGTGGAGACAGGGCTCTGGGGCTGATGGCTGGGGTTGGGAGCCAG GGTCCTCTTGCCCGGACAACCCCAGGACTGACGATGACCCCGAAAGGGAAGAGGCCCCATCTCTCGGGGACTGAG GGGGTGGAGAGAGGGGACCTCTTCCCCCTACTCTGCCCCCTTCCTGCACACCCTTGCGCTGGAGGAGGAGGGGAGGGG ${\tt TCAGAATGTGGGGAGACGCCTCTGCCAAGGCCATCCCAGCCCCTATGCTGCCATCCCCAGGGCTCCCCATCACCC}$ CGAGAGGAGGACGCCCCAACTAACCCCCGCTGGCCCTCGGGCCTCCCGAGTGGCCGGCTGCAACCACGGCTCC GGGGGAAGGAGGTGGCTGCTACCCCCAAGCCTTCCCAGTGCTGACAACCCCGGGGGCAGGCGAGGGCGCCCAGTC $\verb|CCTCACCATCGGCTGCACATCGCGCCCTCGGGCCCTGCCATGTCCCTGGTGCTACTGACCTCTCAAGGCTTCCTC|\\$ CAATCTGGGGTCGGGGGACCCTGGGAGGTGCTTTACAGACCGCTAATAAAAGACGATCTGCGTGAACGCCAAAAA ΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑ

MASTAGYIVSTSCKHIIDDQHWLSSAYTQFAVPYFIYDIYAMFLCHWHKHQVKGHGGDDGAARAPGSTWAIARGY LHKEFLMVLHHAAMVLVCFPLSVVWRQGKGDFFLGCMLMAEVSTPFVCLGKILIQYKQQHTLLHKVNGALMLLSF LCCRVLLFPYLYWAYGRHAGLPLLAVPLAIPAHVNLGAALLLAPQLYWFFLICRGACRLFWPRSRPPPACQAQD

 ${\tt MRNLGDKSFCGFKCLSTLESGTALSSVRHFCGVTASLLRLGVAGGQTLGATPGPVMNGPADGEVDYKKKYRNLKRKLKFLIYEHECFQEELRKAQRKLLKVSRDKSFLLDRLLQYENVDEDSSDSDATASSDNSETEGTPKLSDTPAPKR}$

 ${\tt CCGAGGTTCCTCATCTGCCGGAGGATGCCTTTTCTCTTCTGCCTTGCGAAATAACAGCAGCCTAGCTGTTGCC}$ CGTGACCAGTGAGAAAGGCAGCGTCGCGGGCTGATTAGGTTTCACCCAAAGGGTGCCGGCGCCGAATTGGTTTCT AACGAGAACTTTTAAAATGATCCGTTCCAAAAAAGGGTAGGAGCCCGCGAGACCCTCCAACTGCCCAGAGAAAACA CTCAGCACGCTTACGCATTCCATCGTGCGGCGGAGGTACTTAGCTCACTCGGGCCGCAGCCACCTGGAGCCCGAG GAGAAGCAGGCACTGAAGCGGCTGGTGGAGGAGGAGCTGCTGAAGATGCAGGTGGATGAAGCCGCTTCCAGGGAA GACAAACTGGACCTTACCAAGAAGGGCAAGAGGCCTCCCACCCCTTGTAGCGACCCGGAGAAAAAAGGTTCCGC TTCAATTCAGAGTCGGAGTCCGGCTCTGAAGCCTCCAGCCCAGACTACTTTGGACCCCCAGCAAAGAATGGGGTG GCAGCAGAAGTCAGCCCAACGAGAGAATCCAAGGCGAGCCTCAAAGGCAGTTGAGGAGAGCAGTGATGAG GAACGGCAGAGGGACCTGCCCGCACAGAGGGGAGAGGAGGAGGAGGAGGAGAAAAGGGGTACAAGGGGAAG AGTGAGGAGAGCGAGACCCGTTCAGAGGACAGCAAAGAAGGTGGAGGGAAATAAAGGAACTAAAAGCCTG GAAGAGAAAGAGGATGAGGAAAAGGGGGATTGGAAACCCAGAACCAGGAGCAATGGCCGGAGAAAGTCAGCT AGGGAGGAGGAGCTGTAAGCAGAAAAGCCAGGCAAAGAGGCTCTTGGGAGACTCAGACAGCGAGGAAGAGCAG AAAGAGCCAGCCAGCAGTGGGGATGACAGTGGGAGAGATAGAGAACCCCCAGTGCAGAGGAAGAGTGAGGACAGG ACCCAGCTTAAGGGTGGGAAGAGTTGAGTGGAAGCAGCGAGGACGAGGAAGACAGTGGGAAGGGGGAACCCACA GACAGCGAGGCAGGGGGAGGCCCCCAGGGGGAGAGAACACCGCTCTTCCAAGAAGACTCCAGGAAAGGCAGG GAGGACCACCCGGCTGTGATGAGGCTGAAGCGCTACATTCGGGCCTGTGGTGCCCATCGAAACTACAAGAAGCTG TTGGGCTCCTGTTGCTCACACAAGGAGCGCCTGAGTATCCTCCGGGCAGAACTGGAAGCGCTAGGCATGAAGGGT GCGAACATCATCAGTGGCTCGGGCCGCCACGCAGACGTACAGCCTGGAACCCTTTAGGAGAAGCACCACCCCA GGGGAGCTGTACCGACCGGACCCTGGACTCAGATGAAGAGCGGCCCCGTCCCGCACCCCCAGACTGGTCACATATG CGTGGCATCATCAGCAGTGATGGCGAGAGTAACTGAGCTCTGCCACCCCCAGGAGGGACCCTTGATACATGTACA GGACACAAGCTGTTGGGATGCTACTTCTCAGCTTCACGCTGTCCCTTTAAGGTGTTTATTTTTTAAGACTCAATA AAGGAGTGTTTTTAATCACCTC

AGCAGGGTCTCACTCTGTCACCCAGGCTGGAGTGCAGTGGCGCAGTTATAGCTCACTGCAGCCTTGAACTCCTGG GCTCAAGTGATCCTTCCACCTCAGCCTCCCTAGTAGCTGGGACCACAGGTGGTGACTTCCAAGAGTGACTCCGTC ${\tt GGAGGAAAATGACTCCCCAGTCGCTGCAGACGACACTGTTCCTGCTGAGTCTGCTCTTCCTGGTCCAAGGTG}$ ACAAACCCACACCAGACCTGCGCATCTCCATCGAGAACTCCGAAGAGGCCCTCACAGTCCATGCCCCTTTCCCTG CAGCCCACCCTGCTTCCCGATCCTTCCCTGACCCCAGGGGCCTCTACCACTTCTGCCTCTACTGGAACCGACATG $\tt CTGGGAGATTACATCTTCTCTATGGCAAGCGTGACTTCTTGCTGAGTGACAAAGCCTCTAGCCTCCTCTGCTTCC$ AGCACCAGGAGGAGAGCCTGGCTCAGGGCCCCCCGCTGTTAGCCACCTCTGTCACCTCCTGGTGGAGCCCTCAGA ACATCAGCCTGCCCAGTGCCGCCAGCTTCACCTTCTCCTTCCACAGTCCTCCCCACACGGCCGCTCACAATGCCT CGGTGGACATGTGCGAGCTCAAAAGGGACCTCCAGCTGCTCAGCCAGTTCCTGAAGCATCCCCAGAAGGCCTCAA GGAGGCCCTCGGCTGCCCCGCCAGCCAGCAGTTGCAGAGCCTGGAGTCGAAACTGACCTCTGTGAGATTCATGG GGGACATGGTGTCCTTCGAGGAGGACCGGATCAACGCCACGGTGTGGAAGCTCCAGCCCACAGCCGGCCTCCAGG ACCTGCACCTCCCGGCAGGAGGAGGAGCAGAGCGAGATCATGGAGTACTCGGTGCTGCTGCTCGAACAC TCTTCCAGAGGACGAAAGGCCGGAGCGGGAGGCTGAGAAGAGACTCCTCCTGGTGGACTTCAGCAGCCAAGCCC TGTTCCAGGACAAGAATTCCAGCCAAGTCCTGGGTGAGAAGGTCTTGGGGATTGTGGTACAGAACACCAAAGTAG CCAACCTCACGGAGCCCGTGGTGCTCACTTTCCAGCACCAGCTACAGCCGAAGAATGTGACTCTGCAATGTGTGT TCTGGGTTGAAGACCCCACATGTGACAGCCCGGGGCATTGGAGCAGTGCTGGGTGTGAGACCGTCAGGAGAAA CCCAAACATCCTGCTTCTGCAACCACTTGACCTACTTTGCAGTGCTGATGGTCTCCTCGGTGGAGGTGGACGCCG CCGCCTACCTCTGCTCCAGGGTGCCCCTGCCGTGCAGGAGGAAACCTCGGGACTACACCATCAAGGTGCACATGA ACCTGCTGCTGGCCGTCTTCCTGCTGGACACGACCTTCCTGCTCAGCGAGCCGGTGGCCCTGACAGGCTCTGAGG CTGGCTGCCGAGCCAGTGCCATCTTCCTGCACTTCTCCCTGCTCACCTGCCTTTCCTGGATGGGCCTCGAGGGGT ACAACCTCTACCGACTCGTGGAGGTCTTTGGCACCTATGTCCCTGGCTACCTAAGCTGAGCGCCATGG GCTGGGGCTTCCCCATCTTTCTGGTGACGCTGGTGGCCCTGGTGGATGTGGACAACTATGGCCCCATCATCTTGG $\tt CTGTGCATAGGACTCCAGAGGGCGTCATCTACCCTTCCATGTGCTGGATCCGGGACTCCCTGGTCAGCTACATCA$ CCAACCTGGGCCTCTTCAGCCTGGTGTTTCTGTTCAACATGGCCATGCTAGCCACCATGGTGGTGCAGATCCTGC GGCTGCGCCCCACACCCAAAAGTGGTCACATGTGCTGACACTGCTGGGCCTCAGCCTGGTCCTTGGCCTGCCCT GGGCCTTGATCTTCTCCTTTGCTTCTGGCACCTTCCAGCTTGTCGTCCTCTACCTTTTCAGCATCATCACCT ${\tt CCTTCCAAGGCTTCCTCATCTTCATCTGGTACTGGTCCATGCGGCTGCAGGCCCGGGGTGGCCCCTCCCCTCTGA}$ AGAGCAACTCAGACAGCGCCAGGCTCCCCATCAGCTCGGGCAGCACCTCGTCCAGCCGCATCTAGGCCTCCAGCC CCATGCTGCCTAGGGTACTGTCCCCACATCTGTCCCAACCCAGCTGGAGGCCTGGTCTCTCTTACAACCCCTGG GCCCAGCCCTCATTGCTGGGGGCCAGGCCTTGGATCTTGAGGGTCTGGCACATCCTTAATCCTGTGCCCCTGCCT GGGACAGAAATGTGGCTCCAGTTGCTCTGTCTCTCGTGGTCACCCTGAGGGCACTCTGCATCCTCTGTCATTTTA ACCTCAGGTGGCACCCAGGGCGAATGGGGCCCAGGGCAGACCTTCAGGGCCAGAGCCCTGGCGGAGGAGAGGCCC TTTGCCAGGAGCACAGCAGCTCGCCTACCTCTGAGCCC

 ${\tt AGGGCTTCCTGAAGAATGAGAAGGACAATGCCCTGCTGTCTGCCATCGAAGAGTCCCGGAAGAGAGCCTTCGGC\underline{\bf A}}$ TGGCTGAGGAGTACCATCGGGAGTCAATGTTGGTTGAGTGGGAGCAAGTGAAACAGCGAATTCTGCACACACTGC TGGCATCAGGAGAAGACGCCCTTGACTTTACTCAAGAAAGCGAGCCAAGCTACATCAGTGATGTGGGACCCCCTG GTCGAAGCTCTCTGGATAACATCGAGATGGCCTATGCGCGGCAAATTTATATCTATAATGAGAAAATTGTAAATG GACACCTGCAGCCTAACCTGGTGGACCTTTGTGCTTCCGTCGCAGAGCTCGATGATAAGAGCATTTCCGACATGT GGACCATGGTAAAACAAATGACAGACGTGTTGTTGACACCGGCAACGGATGCCCTGAAGAACCGCAGCAGCGTGG AAGTGCGCATGGAGTTTGTCAGGCAGGCCTTGGCGTACCTTGAGCAGAGTTATAAGAATTACACCCTTGTGACTG TCTTTGGAAATTTGCATCAGGCCCAGCTGGGCGGGGTGCCTGGGACTTACCAATTGGTTCGAAGTTTCCTGAACA TTAAACTGCCAGCTCCCTTGCCTGGACTACAGGATGGAGAGGTGGAAGGCCATCCTGTGTGGGCGCTAATTTACT ACTGCATGCGCTGTGGAGACCTGCTTGCCGCTTCACAGGTAGTTAATCGAGCCCAGCACCAGCTGGGAGAGTTTA AAACCTGGTTCCAGGAGTACATGAACAGCAAGGACAGAAGATTGTCCCCAGCTACGGAAAACAAGCTCCGGCTGC ATTACCGTAGGGCCCTCAGGAACAATACAGATCCCTACAAGCGGGCCGTGTACTGTATCATTGGCAGATGTGACG TCACCGACAACCAGAGTGAAGTGGCGGACAAAACTGAGGATTACCTGTGGCTGAAGTTGAACCAAGTGTTTTTG ACGACGATGGCACCAGCTCCCCACAGACAGGCTCACTCTCACAGTTCCAGAAGCAGTTGTTGGAAGACTATG GCGAGTCCCACTTTACGGTGAACCAGCAACCCTTCCTCTACTTCCAAGTCCTGTTCCTGACAGCGCAGTTTGAAG CAGCAGTTGCCTTTCTTTCCGCATGGAGCGGCTGCGCTGCCATGCTGTCCATGTAGCACTGGTGCTGTTTGAGC GGCGGCTGAACTTCGTGCGGCTCCTCATGCTGTACACCCGGAAGTTTGAGTCCACGGACCCAAGGGAGGCCCTCC TGATTGAAAGCCGAGAGTTCGATATGATTCTTGGGAAACTAGAGAATGACGGAAGTAGAAAGCCTGGAGTCATAG ATAAGTTTACTAGTGACACAAAGCCTATTATCAACAAAGTTGCTTCTGTGGCAGAAAATAAAGGACTGTTTGAAG AGGCAGCAAAGCTGTATGACCTTGCCAAGAATGCTGACAAGGTACTGGAGCTGATGAACAAACTGCTGAGCCCTG TCGTCCCCCAGATCAGTGCCCCGCAATCCAACAAGGAGAGGCTGAAGAACATGGCACTCTCCATTGCCGAACGGT ATAGGGCTCAAGGAATAAGCGCAAATAAATTTGTGGACTCCACGTTCTATCTTCTTTTGGACTTGATCACCTTTT TTGACGAGTATCATAGTGGTCATATTGATAGAGCTTTTGATATCATTGAGCGCTTGAAGCTGGTGCCCCTGAATC AGGAAAGTGTGGAAGAGAGAGTGGCTGCCTTCAGAAATTTCAGTGATGAAATCAGGCACAACCTCTCAGAAGTGC TTCTTGCCACCATGAACATCTTGTTCACACAGTTTAAGAGGCTCAAGGGGACAAGTCCATCCTCGTCATCCAGGC CCCAGCGAGTCATCGAGGACCGCGACTCTCAACTCCGAAGTCAAGCCCGCACTCTGATTACCTTTGCTGGAATGA ${\tt TACCATACCGAACGTCTGGGGACACCAATGCGAGGCTGGTGCAGATGGAGGTCCTCATGAAT \underline{{\tt TAA}}{\tt GTGCCATGCT}$ TTGTGGGAGTCTGGGTCGCACACTGTCAGTACATCAGGCACATGGGCCCACTAGGCTGGGGTTTCTGGTTTTGT TTCTGTTGTGTTTTGTTTTGGTTTCTGTATTATGTATTTTTGTCAACGCCAATAAATTTCTTTGATTTGT

MAEEYHRESMLVEWEQVKQRILHTLLASGEDALDFTQESEPSYISDVGPPGRSSLDNIEMAYARQIYIYNEKIVN GHLQPNLVDLCASVAELDDKSISDMWTMVKQMTDVLLTPATDALKNRSSVEVRMEFVRQALAYLEQSYKNYTLVT VFGNLHQAQLGGVPGTYQLVRSFLNIKLPAPLPGLQDGEVEGHPVWALIYYCMRCGDLLAASQVVNRAQHQLGEF KTWFQEYMNSKDRRLSPATENKLRLHYRRALRNNTDPYKRAVYCIIGRCDVTDNQSEVADKTEDYLWLKLNQVCF DDDGTSSPQDRLTLSQFQKQLLEDYGESHFTVNQQPFLYFQVLFLTAQFEAAVAFLFRMERLRCHAVHVALVLFE LKLLKSSGQSAQLLSHEPGDPPCLRRLNFVRLLMLYTRKFESTDPREALQYFYFLRDEKDSQGENMFLRCVSEL VIESREFDMILGKLENDGSRKPGVIDKFTSDTKPIINKVASVAENKGLFEEAAKLYDLAKNADKVLELMNKLLSP VVPQISAPQSNKERLKNMALSIAERYRAQGISANKFVDSTFYLLLDLITFFDEYHSGHIDRAFDIIERLKLVPLN QESVEERVAAFRNFSDEIRHNLSEVLLATMNILFTQFKRLKGTSPSSSSRPQRVIEDRDSQLRSQARTLITFAGM IPYRTSGDTNARLVQMEVLMN

 ${\tt CCGACACCGCCGCCGCCATG}{\tt GAGTCCGAGACCGAACCCGAGCCCGTCACGCTCCTGGTGAAGAGCCCCAACC}$ AGCGCCACCGCGACTTGGAGCTGAGTGGCGACCGCGGCTGGAGTGTGGGCCACCTCAAGGCCCACCTGAGCCGCG TCTACCCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAATTTATTCTGGGAAGCTGTTGTTGGATCACCAATGTC TCAGGGACTTGCTTCCAAAGCAGGAAAAACGGCATGTTTTGCATCTGGTGTGCAATGTGAAGAGTCCTTCAAAAA TGCCAGAAATCAACGCCAAGGTGGCTGAATCCACAGAGGAGCCTGCTGGTTCTAATCGGGGACAGTATCCTGAGG ATTCCTCAAGTGATGGTTTAAGGCAAAGGGAAGTTCTTCGGAACCTTTCTTCCCCTGGATGGGAAAACATCTCAA GGCCTGAAGCTGCCCAGCAGGCATTCCAAGGCCTGGGTCCTGGTTTCTCCGGTTACACACCCTATGGGTGGCTTC AGCTTTCCTGGTTCCAGCAGATATATGCACGACAGTACTACATGCAATATTTAGCAGCCACTGCTGCATCAGGGG CTTTTGTTCCACCACGAGTGCACAAGAGATACCTGTGGTCTCTGCACCTGCTCCAGCCCCTATTCACAACCAGT TTCCAGCTGAAAACCAGCCTGCCAATCAGAATGCTGCTCCTCAAGTGGTTGTTAATCCTGGAGCCAATCAAAATT ATTCAGCAGCTACATTTTCTGTTTTTCTCAGTATCCTCTACTTCTACTCCTCCCTGAGCAGATTCCTCATGGTCA TGGGGGCCACCGTTGTTATGTACCTGCATCACGTTGGGTGGTTTCCATTTAGACCGAGGCCGGTTCAGAACTTCC CAAATGATGGTCCTCCTCCTGACGTTGTAAATCAGGACCCCAACAATAACTTACAGGAAGGCACTGATCCTGAAA CTGAAGACCCCAACCACCTCCCTCCAGACAGGGATGTACTAGATGGCGAGCAGACCAGCCCCTCCTTTATGAGCA ${\tt CAGCATGGCTTGTCTTCAAGACTTTCTTTGCCTCTTCTTCCAGAAGGCCCCCCAGCCATCGCAAAC{ t t GA}{\tt TGGT}$ GTTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGACTGGATCACCTGACTCCAGCTAGATTGCCTCTCCTG TGAAGCCGTGATACAAATTGGTGAACAAAAAATGCCCAAGGCTTCTCATGTCTTTATTCTGAAGAGCTTTAATAT ATACTCTATGTAGTTTAATAAGCACTGTACGTAGAAGGCCTTAGGTGTTGCATGTCTATGCTTGAGGAACTTTTC CAAATGTGTGTGTCTGCATGTGTTTTGTACATAGAAGTCATAGATGCAGAAGTGGTTCTGCTGGTACGATTTGA TTCCTGTTGGAATGTTTAAATTACACTAAGTGTACTACTTTATATAATCAATGAAATTGCTAGACATGTTTTAGC AGGACTTTTCTAGGAAAGACTTATGTATAATTGCTTTTTAAAATGCAGTGCTTTACTTTAAACTAAGGGGAACTT AAAAAAAA

MESETEPEPVTLLVKSPNQRHRDLELSGDRGWSVGHLKAHLSRVYPERPREDQRLIYSGKLLLDHQCLRDLLPK QEKRHVLHLVCNVKSPSKMPEINAKVAESTEEPAGSNRGQYPEDSSSDGLRQREVLRNLSSPGWENISRPEAAQQ AFQGLGPGFSGYTPYGWLQLSWFQQIYARQYYMQYLAATAASGAFVPPPSAQEIPVVSAPAPAPIHNQFPAENQP ANQNAAPQVVVNPGANQNLRMNAQGGPIVEEDDEINRDWLDWTYSAATFSVFLSILYFYSSLSRFLMVMGATVVM YLHHVGWFPFRPRPVQNFPNDGPPPDVVNQDPNNNLQEGTDPETEDPNHLPPDRDVLDGEQTSPSFMSTAWLVFK TFFASLLPEGPPAIAN

GCCCGGCCGAGCAGCAGCTCCCGGGGATGCCCGGGCGCTCGGAGCGGCAGCCGCAGCCGTGCGGTGAG GGCGGTGGCCCCGCGGGACCTGCCACGGAACTCCTGCCACCGCCACCGGCTCCCATGGCCCACATACCC AGTGGGGGTGCCCCAGCAGCGGGGCAGCCCCCATGGGCCCCCAGTATTGCGTGTGCAAGGTGGAGCTGTCAGTG AGTGGCCAGAACCTACTGGACCGGGATGTTACCTCCAAGTCCGACCCCTTCTGTGTCCTCTTTACAGAGAACAAT GGCAGATGGATCGAGTACGACAGGACAGAAACCGCGATCAACACCTCAACCCCGCCTTCTCCAAGAAGTTCGTG CTTGACTACCACTTCGAGGAGGTACAGAAGCTCAAGTTCGCGCTCTTTGACCAGGACAAGTCCAGTATGCGGCTG GACGAGCATGACTTCCTGGGCCAGTTCTCCTGCAGCCTGGGCACGATCGTCTCCAGCAAGAAGATCACTAGGCCT CTGCTGCTGCTGAATGACAAGCCTGCGGGGAAGGGCTTGATTACGATCGCTGCCCAGGAGCTGTCCGACAACCGC GTCATCACATAAGCCTGGCGGGCAGGAGGCTGGACAAGAAGGACCTCTTTGGGAAGTCAGACCCCTTTCTGGAG TTTTATAAGCCAGGAGACGATGGCAAGTGGATGCTGGTCCACAGGACTGAGGTGATCAAGTACACACTGGACCCT GTGTGGAAGCCATTCACAGTGCCCTTGGTGTCCCTGTGTGATGGGGACATGGAGAAGCCCATCCAGGTCATGTGC TACGACTATGACAATGACGGGGGCCATGACTTCATCGGCGAGTTCCAGACCTCAGTGTCACAGATGTGTGAGGCT CGAGACAGCGTCCCGCTGGAGTTCGAGTGCATCAACCCCCAAGAAGCAGGAAGAAGAAGAACAACTATAAAAACTCG CTCATGTTCACCGTTGGAATAGACTTTACAGCCTCCAACGGGAATCCCCTCGACCCTTCCTCTTTGCACTATATC AACCCTATGGGCACCAACGAATATCTGTCGGCCATCTGGGCTGTTGGGCAGATCATTCAGGACTACGACAGTGAT AAGATGTTTCCAGCTCTGGGATTCGGGGCCCAGTTACCCCCAGACTGGAAGGTCTCCCATGAGTTTGCCATCAAC CGCTTCTACGGTCCTACCAATTTCTCCCCCATCGTCAACCACGTGGCCCGGTTTGCGGCCCAGGCCACACAACAG ${\tt GCCGTGGTGCAGGCTTCCAAGCTGCCCATGTCCATCATCGTGGGCGTGGGCAATGCGGACTTCGCTGCCATG}$ GAGTTCCTGGATGGGGACAGCCGCATGCTGCGCTCCCACACGGGGGAGGCGCAGCCCGCGATATTGTGCAGTTC GTTCCCTTTCGAGAGTTCCGCAACGCAGCAAAAGAGACCTTGGCCAAAGCTGTGCTGGCGGAGCTGCCCCAACAA GTTGTGCAGTATTTCAAGCATAAAAACCTGCCCCCACCAACTCGGAGCCCGCCTGAGCTCCAGTGCCCAGCAGC TTACCGATCCCCTTTTTTATTTTTTTACAACCGGACCTCCACCCCCAACTTCCTCCAGCCCAGCTGGGCTTCCTTT GTTGGAGTCAACTGTTGATGCTTCCAGGCCAAACTGGCTTCCTCTCCTCTCCCCACCTTTGCCATTCTTAAG TATTGAATGTACTTTGTATAATTTTAGTGGAATTGTTATTGAGAATAAAATTTTTACAATCAT

MRLDEHDFLGQFSCSLGTIVSSKKITRPLLLLNDKPAGKGLITIAAQELSDNRVITLSLAGRRLDKKDLFGKSDP FLEFYKPGDDGKWMLVHRTEVIKYTLDPVWKPFTVPLVSLCDGDMEKPIQVMCYDYDNDGGHDFIGEFQTSVSQM CEARDSVPLEFECINPKKQRKKKNYKNSGIIILRSCKINRDYSFLDYILGGCQLMFTVGIDFTASNGNPLDPSSL HYINPMGTNEYLSAIWAVGQIIQDYDSDKMFPALGFGAQLPPDWKVSHEFAINFNPTNPFCSGVDGIAQAYSACL PHIRFYGPTNFSPIVNHVARFAAQATQQRTATQYFILLIITDGVISDMEETRHAVVQASKLPMSIIIVGVGNADF AAMEFLDGDSRMLRSHTGEEAARDIVQFVPFREFRNAAKETLAKAVLAELPQQVVQYFKHKNLPPTNSEPA

CGGTGGCGCCGCGCAGTCACCGCGGAGCAGACGCGGAGGCTGGTGGCCCCTGGGCGAGATGCCGTACGCCAACCA GCCTACCGTGCGGATCACGGAGCTCACTGACGAGAATGTCAAGTTCATCGAGAACACCGACCTGGCGGTGGC CAATTCGATTCGGAGGGTCTTCATCGCTGAGGTTCCCATAATAGCCATTGACTGGGTTCAGATTGATGCCAATTC CTCAGTTCTTCATGATGAATTCATTGCTCACAGGCTTGGATTAATTCCCCTCATTAGTGATGACATTGTGGACAA GCTGCAGTACTCTCGGGACTGCACATGTGAGGAGTTCTGCCCCGAGTGCTCGGTGGAGTTCACCCTCGATGTGCG GTGCAATGAAGACCAGACGCGACATGTCACGTCTCGAGACCTCATCTCCAACAGCCCCCGGGTCATTCCGGTGAC ATCCCGGAACCGAGATAATGACCCCAATGACTACGTGGAGCAGGATGACATCCTCATCGTCAAGTTGAGAAAGGG CCAGGAGCTGAGACTTCGAGCCTATGCCAAAAAGGGCTTTGGCAAGGAGCATGCCAAGTGGAACCCTACTGCAGG GGTGGCTTTTGAATACGATCCAGACAATGCCCTGAGGCACACAGTGTACCCCAAGCCCGAGGAATGGCCAAAGAG ${\tt TGAGTACTCGGAGCTGGATGAGGATGAGTCGCAGGCTCCCTATGACCCCAACGGCAAGCCAGAAAGGTTTTACTA}$ CAATGTGGAGTCCTGTGGCTCTCTGCGTCCTGAAACCATTGTCCTGTCAGCCCTCTCAGGATTGAAGAAGAAACT GAGTGATTTACAAACTCAATTAAGCCACGAGATCCAGAGTGATGTGCTAACCATAAATTAACTGCAGCTTGCCTG GGATGCAGTGGTGTTTAGGCAGGATAGGTCTTTACTGGCCCTGACTGCTGTTAATAATTGGCAGCAGTGCTCCCC AGATCCCAGAAGGTCCCTGCTGGAGTGTTTCCAGTGCACCTGTAGGGAACCAACTAGACTTCTCTCCTGGTTAGT CCAGCTCTTTACTCTAAACCCTTTCTGTCCAAAATGAGTCATTTTCAGTTGTACCTTAGATGTCTGGTGTTGAGG ATCAAGTGCCATAGCCTTTATTCAGGGGGCCTATAAACCCTTCCAGTTCTTGCCCCAGGGCTGGCCTGCTAGCGC TTCAAATTCCCAGGTGTCCCTAATTTGAGAAGTAACCTTTTGGAATAGCATTAGACCCTGGCTGTCCCCTCCCCA CCAAATAAACATGATATTTCATTCTCTGTCCAGCAGTCATGAACCCCTTCACCTCCAATGACCTGATCATTTAGT TTGGTGGGGGTGGGGGTGGGGGTGGAAGCAGCCGCAGGAGCAAGGGCCCCTCCCACATACACAGGAGGA GTATTTCATTTCTCCTTAATGAAGGCTCTGGCCCTAACCCCTCAGCACTGTCTCCAGATAGGAACATGCACAAAG TGTCTTTTTAAAAGTGTTTATTTTTGGCAATAAAGAGCACAACAT

CCCGGCGCCGCCGCCCTGCCGCCCCCCCCCGCCAGCCGCGTGACGCGGGCATGAGCCTGCTCCGCGGCGCGC TGAGCAGGCGCTCCTGGCCCGGGCCTCGGCGCCCAGCAGGCGCGGAAGGAGCTGCTAGAACAATGCTGAGG CGGGTGAGGTGAGGAGCAGCCCCTCGCGGCAGCCCCGACAGAGTGTCTGGAACAGGTGATTGGAGGAGCCGGAGA CCCAGGCACCTGGGCATCCTTCCCCTCGCCTCTGCCAGGCCCCGCGCCCCTAAAAGGTGGGAAAACCATGGCGAC CAATTTCAGTGACATCGTCAAGCAAGGCTACGTGAAGATGAAGAGCAGGAAGCTCGGGATCTACCGGAGGTGCTG GCTGGTGTTCCGGAAATCCTCCAGCAAGGGGCCCCAGCGGCTGGAGAAGTATCCAGATGAGAAGTCGGTGTGCCT CCGGGGCTGCCCCAAGGTGACTGAGATCAGCAACGTCAAGTGTGTTACGCGGCTCCCCAAGGAGACCAAGCGGCA GGCGGTGGCCATCATATTCACTGATGACTCGGCACGTACCTTCACCTGCGACTCAGAGCTAGAGGCAGAGGAGTG GTACAAGACACTATCTGTGGAGTGTCTGGGGTCCCGCCTCAACGACATCAGTCTGGGAGAACCTGACCTCCTGGC CCCAGGGGTGCAGTGTGAACAGACAGATCGCTTCAATGTCTTCCTGCTGCCCCCAACCTGGACGTGTATGG CGAGTGCAAGCTGCAGATCACCCACGAGAACATCTACCTCTGGGACATCCACAACCCCCGTGTGAAGCTCGTCTC GTGGCCCTCTGCTCACTGCGCCGCTATGGCCGGGATGCCACACGCTTTACCTTCGAGGCTGGCCGGATGTGTGA TGCTGGGGAAGGACTCTATACCTTCCAGACACAAGAGGGGGGAGCAGATTTACCAGCGCGTCCACAGTGCCACCCT GGCCATCGCAGAGCACACAGCGGGTCCTGCTGGAAATGGAGAACGTGAGGCTGCTGAACAAGGGCACGGA ACATTACTCGTATCCCTGCACACCCACGACCATGCTGCCGCGCAGTGCCTACTGGCACCACACATCACTGGTTCCCA GAACATCGCCGAAGCCTCCAGCTATGCTGGTGAGGGGTATGGGGCCAGCCCAGGCCAGCTCGGAAACAGACCTCCT TGAGGCAAAGGGCTGGCCACACCACCTGAGCATGTGTGAGGGGTTGGAGCTACCGTGGGACTATATACTGTTAAT GATTTTAATATATGGCTTATGACATACTCTGTATCAATGAGATCCCCTCACCCTCACCCCATCCTTCCCCACC AATACACAAATTTTTTAATCCCATGACCAGGCCACGGTCAAGGCTGTTTTTGAGTATGAGTGCAGTCGTGTCC ATCCTCCATGGCACAGCCCTCCTGCTGCCAGGACCTGCTTGAACTACCAGGGCCACAGGAGGGGGATAATCAGAG CTTGAGGCTGGCACTCTGACTGCTTGTTCCCAAACAGCCCAAGGGCCGGAACAGCAGGTGGCTTCTCAGTTC $\tt CTCTGGGCCTGGAGTGACACAGGAAGGATCTGCACTTCCTCTGTGCTGCTTGCCAGCCTTGCAGTTGGAGTTTTA$ AGCAGAGGTGACATCTGGTTGACGCCTCAGGTGAAAATCTGGTTTTAAAATGTAACTTCTGCACAGGCTCCTTCC TGCTTTGTAGGCTGGGAAGATGCCCCTGGGGTAGGGGTGCTGATTACCTCAGCCATGTGGAGGAAGGCTGGAGCT TGTTCCTGCCCCAGGAATAGGCCAGGAGGGAAGGCCGCAGCAGGACTGCCGTGGGGAGCACCCCTGCTGCCCCCC TCTCACTGACCAGGGGTGGACAATGCCCAAGCAGAGGGAGCCCCCTTGCCCTGTTTGGCCACCCTCTGGCCAGCC AAAAGCACTCTGAAACCAAGACCTTCCCATTCCTCCCCACATGGTGCTGAGGCTCCCTGCTGCAATGCAATT AAAGCAATTGATTTCTAGTGCTGGTATTTGTTGACTACCATGCAGAAGGGCTATCTTTCTATTCACGTCAAACT GACCTTCTTGTAAATAACCACTATTTGAGTTGTGGCAGGAGGATGATAAAGCACGCGGCCCCTCCCAAAGGAGCC $\tt CTTGAGCTAGGGAGGTGGTGCAGCCTCGCTCTCAACGTGACCCGGGGAATGACCACCCAGAGGGATGAGCT$ ΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑ

MATNFSDIVKQGYVKMKSRKLGIYRRCWLVFRKSSSKGPQRLEKYPDEKSVCLRGCPKVTEISNVKCVTRLPKET KRQAVAIIFTDDSARTFTCDSELEAEEWYKTLSVECLGSRLNDISLGEPDLLAPGVQCEQTDRFNVFLLPCPNLD VYGECKLQITHENIYLWDIHNPRVKLVSWPLCSLRRYGRDATRFTFEAGRMCDAGEGLYTFQTQEGEQIYQRVHS ATLAIAEQHKRVLLEMEKNVRLLNKGTEHYSYPCTPTTMLPRSAYWHHITGSQNIAEASSYAGEGYGAAQASSET DLLNRFILLKPKPSQGDSSEAKTPSQ

(

ATTTTGTGGGTGGGGCTTCAGGTGCCAGCCAGCTGAAGGATGGCCACCCCTGTGGTCACCAAGACAGCCTGGAAG TTGCAAGAGATCGTCGCGCATGCCAGCAACGTGTCCTCACTGGTGCTGGGCAAAGCCTCCGGGCGGCTGCTGGCT ACAGGCGGGGATGACTGCCGCGTCAACCTGTGGTCCATCAACAAGCCCAACTGCATCATGAGCCTGACGGGCCAC ACATCCCCAGTGGAGAGCGTCCGCCTCAACACCCCCGAGGAGCTCATCGTGGCCGGCTCTCAGTCGGGCTCCATC CGTGTCTGGGACCTGGAAGCTGCCAAAATTCTTCGCACACTCATGGGACACAAAGCCAACATCTGCAGCCTGGAT TTCCACCCGTACGGCGAGTTTGTAGCCTCTGGTTCCCAGGACACAAACATCAAGCTCTGGGACATCAGGAGGAAA GGCTGTGTCTTCCGATACAGGGGGCACAGCCAGGCCGTGCGGTGTCTCCCGGTTCAGCCCCGATGGGAAGTGGTTG GCGTCGGCCGCAGATGACCACACCGTGAAGCTCTGGGATCTCACTGCCGGCAAGATGATGTCTGAGTTCCCTGGT CACACGGGGCCTGTCAACGTGGTCGAGTTTCACCCCAACGAGTACCTCCTGGCCTCCGGCAGCTCTGACAGGACA CTCTTCAACCCAGACGGCTGCTGCCTGTACAGCGGCTGCCAGGACTCACTGCGTGTCTACGGCTGGGAACCTGAG CGGTGCTTTGATGTGGTCCTCGTCAACTGGGGCAAGGTGGCCGACCTGGCCATCTGCAATGACCAGTTGATAGGT GTGGCCTTCTCCCAGAGCAACGTCTCCTCCTACGTGGTGGATCTGACGCGTGTCACCAGGACTGGCACGGTGGCC $\tt CGGGACCCTGTGCAGGACCACCGGCCCCTGGCACAGCCACCCCAGCGCCCCCTCCGGCGCATCTAT$ AGCGAGGATGACCGGGACGAGGCCCGCGCGGAGATCCAGAACGCCGAGGACTACAACGAGATCTTCCAG CCCAAGAACAGCATCAGTCGGACGCCACCCCGGAGAAGTGAGCCCTTCCCTGCACCCCCAGAGGACGACGCAGCC ACAGCAAAGGAGGCAGCAAAGCCCAGCCCTGCCATGGATGTGCAGTTCCCGGTGCCAAATCTGGAGGTCCTGCCC CGGCCCCAGTGGTTGCTTCCACACCTGCACCCAAGGCTGAGCCTGCCATCATCCCTGCCACCCGGAACGAGCCC ATCGGGCTGAAGGCCTCCGACTTCCTGCCCGCCGTGAAGATCCCCCAGCAGGCCGAGCTGGTGGACGAGGATGCC CGGGCTGTGTGGACCATGGGCGACATCAAGACGTCGGTGGACTCCGCTGTGGCCATCAACGACCTGTCGGTGGTG GTGGACCTCCTGAACATCGTCAACCAGAAAGCCTCCCTGTGGAAGCTGGACCTGTGCACCACCGTCCTGCCACAG ATTGAGAAGCTTCTGCAGAGCAAGTATGAGAGCTACGTCCAGACGGGCTGCACCTCCCTGAAGCTGATCCTGCAG CTGCATAAGTGCCGGCTCTGCTACAAGCAGCTTAAGAGCATCAGCGGCCTGGTCAAGAGCAAGTCAGGCCTGAGC GGCCGCCATGGCAGTACCTTCCGCGAGCTGCACCTGCTCATGGCCAGTCTGGACTGAGGAAAGCAGTGGGCAGGG GCGCTCGGCAGCCCACAGGGCCTGGCCTCAGCCCCACTCCTGTTCCTTGTGCACCCACTGGCCCATGAGCCTCT GCCTGGCCCCTGCTGCTGTGGCCGTCCTGGAGGAGGTGATGCTGGTCCCTGGCCACCTCTACAGCCCTGA ACTCTTGAGACAACTCTCTCCAGCAATAGCTGCCCAGCTTTGCCCAACTGTTGCTTCTTGGGGCAGCGAACTGAG CCCTGGGGCTGCTGTAATTTATAAGGCAAATTTTATTAAATTTGTAACTATT

GAGGGCGCTTCCGGCACAGCGGAACTCCGGGTGCCGGTTGAGGTTGCTGGTGGACCTGCTCTGGTGGTCTTGGAT GAGGCCCCATGAGCGCGCGCCCCTGGTGGGCTACAGCAGCAGCGGCTCCGAGGATGAGTCCGAGGACGGGATGC GGACCAGGCCGGGGGATGGGAGCCACCGTCGTGGCCAGAGCCCCCTTCCCAGGCAGAGATTTCCAGTACCTGACA GTGTGCTGAACATGTTCCCGGGCACCGAGGAGGGGCCTGAAGATGACAGCACAAAACACGGGGGACGGGTGCGCA CCTTCCCCCACGAGCGAGCCAACTGGGCCACCCACGTCTATGTACCATATGAAGCCAAGGAGGAGTTCCTGGATC TGCTTGATGTTGCTGCCCCATGCCCAGACATATGTCCCCCGGCTGGTAAGGATGAAGGTGTTCCACCTCAGCC TGTCCCAGAGTGTGGTTCTGCGCCACCACTGGATCCTCCCCTTCGTGCAGGCTCTGAAAGCCCGTATGACCTCCT TCCACAGATTCTTCTTTACTGCCAACCAGGTAAAGATTTACACCAATCAAGAGAAAAACCAGGACCTTTATTGGGC TTGAGGTCACTTCAGGGCATGCCCAGTTCCTGGACCTGGTTTCAGAGGTGGACAGAGTCATGGAGGAATTCAACC TCACCACTTTCTACCAGGATCCTTCTTTCCACCTCAGCCTGGCCTGGTGTGTGGGGTGATGCACGTCTCCAGCTGG AGGGGCAGTGCCTGCAGGAACTACAGGCAATCGTGGATGGGTTTGAAGATGCTGAGGTGCTGCTGCGCGTGCACA CTGAGCAAGTCCGCTGCAAGTCTGGGAACAAGTTCTTCTCGATGCCTTTGAAGTGAGCACCAGAGGCCTTCCTCC TCCAGGGCCCTCTGCAGACCAGGCTGAGATGGAGGAACCTGCTAAAATCGATGGAGATGCTTCTAGCCTCCCAGT AGGAGGCCCCAGCCATGCCTTCAACCTGGCAGGAGGTGTAGCCACTCCTCATCCTCCCTGAGTGCTGATATTCTC TCGGCTGTTGTGGGTTGCAGGTTGGGTGCTGTTGTGGTCCTTCCCAGAAACTGCCAGTAGAGGGCAGCCTGG AATCTCCACTGTAGTCCCCCTAACAAACAGCCCTTCACTTCCTCTCCCACTTCAGCAATTTGTATTTTGATGCCA TTGGCCTCAGATCAGAGTGTTTTAAATCATCACGCCCTGGCTTATCCCTGGTCGAGCCAGGACACGGGGTGCTTC CCAGCAGGGGCCACTTCAAAGCCAAGGTACAGGTGATAACTTGTGGTCCAGCATCAGTTTTCTCCACTTCTTTC TCCCACTCACCCCAGCAAGGTGCCTGGGGAGACTTGAGCAGATGTTTCATTTTGGCCTGGCCAGTGGCTGAAAG CCAGGCCTCCAATGCACTGTGACCTCTGGCTTCCCCAGCAGCTTTCCCAGAGAGGGCAGAGGGGCCTTCCACAGCC $\tt CGGGTTCTCCTGCTGCCTGCTGCAGCTGCAGCATTCTGAGGGGCAACGTGGAGGAAGGGCCAGGGAT$ ATTTCTGGTGATGGACAGAGAAATCTTTTTACAGTTTCAAATTATGTTCAACAAATAAAAATTGCATTTTTT

CCGCTTCCCCGTCTTGTACACCCCTAACTCCTGAGGCTCCTCCGAATCACGCGAGTGGAAGCGGAGAAGCTCAAG ACGACATCCTGATGTCCCACGAGAAGCTGCCGGTGCGCACGGAGACCGCCATGCCTCGCCTTGGCGCTTTCTTCC TGGAGCGGAGCGCAGGCCGAGACTGACAACGCGGTCCCACAGGGTTCCAAGCTTGAACTACCCTTGTGGCTGG CAAAAGGACTTTTTGACAACAAGCGACGGATCCTTTCTGTGGAACTCCCCAAGATCTACCAAGAGGGTTGGAGGA $\tt CTGTGTTCAGTGCAGATCCCAATGTGGTGGACCTCCACAAAATGGGGCCCCATTTCTACGGGTTTGGCTCCCAGC$ TCCTGCATTTTGACAGTCCCGAGAATGCAGACATTTCCCAGTCTCTGCTGCAGACTTTTATCGGACGTTTTCGCC GCATCATGGACTCCTCACAGAATGCTTACAACGAAGACACTTCAGCCCTGGTAGCCAGGCTAGACGAGATGGAGA GGGGCTTATTTCAAACAGGGCAGAAAGGACTGAATGACTTTCAGTGTTGGGAGAAGGGGCAGGCTTCTCAGATCA CAGCTTCCAACCTCGTTCAGAATTACAAGAAGAGAAAATTCACTGATATGGAAGACTGAAAGCCGGAAGAACACA GAATGGCTCCTCACAGACGTATCCCTCCGTGTGTCCTTGATAGGAGCTGGTTGACCTTGTACAGAACCAGAATCC TGTCCCATTTCATGGCTTATTTCCTGTGGCCATAGAGAATTATAGGGAACTGGACATGCTGGAGGATGTGGGTGT CCCTGGCTCTGTGAGTCTTCCAGGACCGTCCCACCCTGCTGACCCACAGCCCAGGCCCTTTAACCCAAGAACCCA TGGCCAAGGAGAATCAAAGTCCTTCCTAAATAAGAATCACTGCCATATAATATATCACAGTAGAGTTGCAACTG AGATTCCTTGTGTCTGGGAGTTTGGACAGCTTCAGATGTACAGTTTCACTAGCCACAAAGCACAGGTACAAACTG GGTCATCGCCTGTTCACAAAATGCTCTCTTGATCTTATTTGCCTCATCTTCCTCATGGTTGTACAGAGGATAGCA GTCGCCCAGATAAAGGAGGAAAAGGGAAAGGCAGACGAATGGCATGGCTTTTACTAAAGAAAAGATGTTGGCCTC ATACTCTATACTCAGGGCTTAATGAACTGGAATCTGCATAACTCAGCAGTCAACCCAGAAGGGAAATGGTTAAAC TGAGCTTGTTATTGCCTCGGAGAGCCTAAGAGCACCCGCACACTTAATTCTACTCCCTGTCTAGAAAAGCTGTCA GGGAGTCGTTTGGAATTGCAATGTAGTTATTAAGGGCTGTTAACCAGCCTGCATTACATCTGGAAGTCAGGACTT GGGTGCTGACTATGAAGGGCCCTGTTTTCAAAATCTAACATTGCAAGTGTAAATGGGCCAAGAAGCCTCCGTTGTG CTTTTTTTTTCCTCTCAGTAACTTTTGCAACATTATTGCATAGAAGATCCCTGACCATTTACTAGGAACCTGGT CCCATTAGACTGTTTGCAGGGCATCACTGCTTCCCCCTGACACCTCACAACTAGCAAAAATTGTCTTTGTCTTTG GAAATTATAGAGGGATTTGGGTATCCAGATTGTGCAGATGCAAACTTAGGCTGTCTTGATGCAAACTTAGAACCA ATTGGCTTTGTACATGAATATGTTCTGTACAAGTGCTCTTTCACTAGTACTACAGATAATCAAAGCTATCAGAAT Α

MSEAYFRVESGALGPEENFLSLDDILMSHEKLPVRTETAMPRLGAFFLERSAGAETDNAVPQGSKLELPLWLAKG LFDNKRRILSVELPKIYQEGWRTVFSADPNVVDLHKMGPHFYGFGSQLLHFDSPENADISQSLLQTFIGRFRRIM DSSQNAYNEDTSALVARLDEMERGLFQTGQKGLNDFQCWEKGQASQITASNLVQNYKKRKFTDMED

GGTCCACCATGCCCTGCTGCACTCCGCCCGCTCCTCCCCGGGATCGCCGCCCTTCCACCCGGGCCTCGCCG CCGCGCCTCTGCCAGAGCCAGCTCCTGGTGGACCCATGTGGAAATGGGACCTCCAGATCCCATTCTGGGAGTCA CTGAAGCCTTTAAGAGGGACACCAATAGCAAAAAGATGAATCTGGGAGTTGGTGCCTACCGGGATGATAATGGAA AGCCTTACGTTCTGCCTAGCGTCCGCAAGGCAGAGGCCCAGATTGCCGCAAAAAATTTGGACAAGGAATACCTGC CCATTGGGGGACTGGCTGAATTTTGCAAGGCATCTGCAGAACTAGCCCTGGGTGAGAACAGCGAAGTCTTGAAGA GTGGCCGGTTTGTCACTGTGCAGACCATTTCTGGAACTGGAGCCTTAAGGATCGGAGCCAGTTTTCTGCAAAGAT GCATGCAGCTACAAGGTTATCGGTATTATGACCCCAAGACTTGCGGTTTTGACTTCACAGGCGCTGTGGAGGATA TTTCAAAAATACCAGAGCAGAGTGTTCTTCTTCTGCATGCCTGCGCCCACAATCCCACGGGAGTGGACCCGCGTC CGGAACAGTGGAAGGAAATAGCAACAGTGGTGAAGAAAAGGAATCTCTTTGCGTTCTTTGACATGGCCTACCAAG GCTTTGCCAGTGGTGATGGTGATAAGGATGCCTGGGCTGTGCGCCACTTCATCGAACAGGGCATTAATGTTTGCC TCTGCCAATCATATGCCAAGAACATGGGCTTATATGGTGAGCGTGTAGGAGCCTTCACTATGGTCTGCAAAGATG CGGATGAAGCCAAAAGGGTAGAGTCACAGTTGAAGATCTTGATCCGTCCCATGTATTCCAACCCTCCCCTCAATG GGGCCCGGATTGCTGCCATTCTGAACACCCCAGATTTGCGAAAACAATGGCTGCAAGAAGTGAAAGTCATGG ACATCACCGACCAAATTGGCATGTTCTGTTTCACAGGGCTAAAGCCTGAACAGGTGGAGCGGCTGATCAAGGAGT $\tt TCTCCATCTACATGACAAAAGATGGCCGCATCTCTGTGGCAGGGGTCACCTCCAGCAACGTGGGCTACCTTGCCC$ ATGCCATTCACCAGGTCACCAAGTAATGTCCCTGGTGCGAGGAAACAGAGACAACCTTTCTGTCTTCAGCCTCTG TGGAATATTAAACCAAACTCTCCCCGGTCCTTTTTTCTCCAACTTTTCTCAAAGAGTTTACATGTGCAAGAAAGT CATCGCACCAAAAAACCTGTCAATTATGCCATTGCAATATTTCAGAAGCTTTAACTGAAGTGTCAGGTTCCTCGT CCATCTTGGAACACCTTATCAACAGGCCGCACTGCAGAAATGATGTTTTATGAAAACCAATGAGGCTGCTGCCA $\tt CTCCAGCAAGGGAAATAATGCAGTTTCCTGTCTTATTTAAGAAAAAGGGAAGGCTCTCTTTTCTCCCTTGTCATT$ TCAACTCCATCCTATCGAGATTTATTTAAGAATGAAGAACATAATTTTCTGCTGATGCTGTACCCTCACCCTTTT CAGCAAAGAATAGTGGAGAGTAGGAAACTGTACTTTATCTCGGCATCCTCTTGAATGATAGTGCAAGTTTCTCCA GTTGGGATGTTGTCTCTGCCCGGTTGGACCTCCTCCCTTTGTTGAATGTGGTGTGCAGCCTCTCATCTCACACTG TGAGTCCAGCGGCGCAGGGTGGTACCAGGAAAGAGGATATTCTAGGCTTTGCGTGCTAGCTGGGTTCAGGCT TCACCCACTGGAAAGAACCACCATCTGCTCTAACCATGTAGACTTATTGCGGCCTGGTTTCTCTGTTACAATAAA ATTACTGTAGACCC

MALLHSGRVLPGIAAAFHPGLAAAASARASSWWTHVEMGPPDPILGVTEAFKRDTNSKKMNLGVGAYRDDNGKPY VLPSVRKAEAQIAAKNLDKEYLPIGGLAEFCKASAELALGENSEVLKSGRFVTVQTISGTGALRIGASFLQRFFK FSRDVFLPKPTWGNHTPIFRDAGMQLQGYRYYDPKTCGFDFTGAVEDISKIPEQSVLLLHACAHNPTGVDPRPEQ WKEIATVVKKRNLFAFFDMAYQGFASGDGDKDAWAVRHFIEQGINVCLCQSYAKNMGLYGERVGAFTMVCKDADE AKRVESQLKILIRPMYSNPPLNGARIAAAILNTPDLRKQWLQEVKVMADRIIGMRTQLVSNLKKEGSTHNWQHIT DQIGMFCFTGLKPEQVERLIKEFSIYMTKDGRISVAGVTSSNVGYLAHAIHQVTK

ATGGCGGACCTTGATTCGCCTCCGAAGCTGTCAGGGGGTGCAGCAGCCGTCTGAGGGGGGTGGGAGGTGGCCGCTGC TCCGAAATCTCCGCTGAGCTCATTCGCTCCCTGACAGAGCTGCAGGAGCTGGAGGCTGTATACGAACGGCTCTGC GGCGAGGAGAAAGTGGTGGAGAGAGAGCTGGATGCTCTTTTGGAACAGCAAAACACCATTGAAAGTAAGATGGTC ACCTGCAACCTGGCTGAGAATGTGTCCAGCAAAGTTCGTCAGCTTGACCTGGCCAAGAACCGCCTCTATCAGGCC TATGAGCAGGCTGCAGCACATACTCATCGCTACTTGTGCCTGGACAAGTCGGTCATTGAGCTCAGCCGACAGGGC AAAGAGGGGAGCATGATTGATGCCAACCTGAAATTGCTGCAGGAAGCTGAGCAACGTCTCAAAGCCATTGTGGCA GAGAAGTTTGCCATTGCCACCAAGGAAGGTGATCTGCCCCAGGTGGAGCGCTTCTTCAAGATCTTCCCACTGCTG GGTTTGCATGAGGAGGGATTAAGAAAGTTCTCGGAGTACCTTTGCAAGCAGGTGGCCAGTAAAGCTGAGGAGAAT CTGCTCATGGTGCTGGGGACAGACATGAGTGATCGGAGAGCTGCAGTCATCTTTGCAGATACACTTACTCTTCTG TTTGAAGGGATTGCCCGCATTGTGGAGACCCACCAGCCAATAGTGGAGACCTATTATGGGCCAGGGAGACTCTAT ACCCTGATCAAATATCTGCAGGTGGAATGTGACAGACAGGTGGAGAAGGTGGTAGACAAGTTCATCAAGCAAAGG GACTACCACCAGCAGTTCCGGCATGTTCAGAACCACCTGATGAGAAATTCTACAACAGAAAAAATCGAACCAAGA GAACTGGACCCCATCCTGACTGAGGTCACCCTGATGAATGCCCGCAGTGAGCTATACTTACGCTTCCTCAAGAAG AGGATTAGCTCTGATTTTGAGGTGGGAGACTCCATGGCCTCAGAGGAAGTAAAGCAAGAGCACCAGAAGTGTCTG GACAAACTCCTCAATAACTGCCTTTTGAGCTGTACCATGCAGGAGCTAATTGGCTTATATGTTACCATGGAGGAG TACTTCATGAGGGAGACTGTCAATAAGGCTGTGGCTCTGGACACCTATGAGAAGGGCCAGCTGACATCCAGCATG GCCATGATCAACCTCGCCACCACAGAGCTGGAGTCTGACTTCAGGGATGTTCTGTGTAATAAGCTGCGGATGGGC TTTCCTGCCACCACCTTCCAGGACATCCAGCGGGGGTGACAAGTGCCGTGAACATCATGCACAGCAGCCTCCAG CAGGAGCCCACTGAGTGCCAAGCTTGCCTTGCATCTGCCACAGAACCAGCTCTACCATCTGTGCCAGACCACCAG ACTGCTTCTCTGAGGAGAGGCCCGCAGCATGGGCAGGCGCCAGTCCTTCGGGCCTGCCATCACTGCTCTGCTAGT ACATGTCTTAGGCTTTCAACTTCCTCTGGAAAGGAGGCTTTATTAAAGCCCTTTGCTACCCAGAATGACAGATGT GATAAAGCAGCAAGCCTTCCATTGTGTGACAGCTTGGAAAGGAGGAGCACAGAAGGATGA

GGCCTGAAGGCCGGGTGCTCAGCCAGGCCGACTACCTCAACCTGGTGCAGTGCGAGACGCTAGAGGACTTGAAA GACCGGCTCAAGGAGAAGATGGTGGTGGAGTTCCGCCACATGAGGAACCATGCCTATGAGCCACTCGCCAGCTTC CTAGACTTCATTACTTACAGGTACATGATCGACAACGTGATCCTGCTCATCACAGGCACGCTGCACCAGCGCTCC ATCGCTGAGCTCGTGCCCAAGTGCCACCCACTAGGCAGCTTCGAGCAGATGGAGGCCGTGAACATTGCTCAGACA CCTGCTGAGCTCTACAATGCCATTCTGGTGGACACGCCTCTTGCGGCTTTTTTCCAGGACTGCATTTCAGAGCAG GACCTTGACGAGATGAACATCGAGATCATCCGCAACACCCTCTACAAGGCCTACCTGGAGTCCTTCTACAAGTTC TGCACCCTACTGGGCGGGACTACGGCTGATGCCATGTGCCCCATCCTGGAGTTTGAAGCAGACCGCCGCGCCTTC ATCATCACCATCAATTCTTTCGGCACAGAGCTGTCCAAAGAGGACCGTGCCAAGCTCTTTCCACACTGTGGGCGG CTCTACCCTGAGGGCCTGGCGCAGCTGGCTGACGACTATGAACAGGTCAAGAACGTGGCCGATTACTAC $\verb|CCGGAGTACAAGCTGCTCTTCGAGGGTGCAGGTAGCAACCCTGGAGACAAGACGCTGGAGGACCGATTCTTTGAG|\\$ CACGAGGTAAAGCTGAACAAGTTGGCCTTCCTGAACCAGTTCCACTTTGGTGTCTTCTATGCCTTCGTGAAGCTC AAGGAGCAGGAGTGTCGCAACATCGTGTGGATCGCTGAATGTATCGCCCAGCGCCACCGCGCCAAAATCGACAAC TCCTAGCGGCTGCCCAGTTCTCCTGACCCTCTTAGAGACTGTTCTTAGGCCTGAAAAGGGGCTGGGCACCCCCC CCACCAAGGATGGACGAAGACCCCCTCCAGAGCAAGGAGGCCCCCTCAGCCCTGTGGTTACAGCCGCTGATGTAT CTAAGAAGCATGTCACTTTCATGTTCCTCCCTAACTCCCTGAGCACCTGGGGGCCTGGGGGCAGTTTGAG ΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑ

4925/6881 FIGURE 4546

MSFFPELYFNVDNGYLEGLVRGLKAGVLSQADYLNLVQCETLEDLKLHLQSTDYGNFLANEASPLTVSVIDDRLK EKMVVEFRHMRNHAYEPLASFLDFITYSYMIDNVILLITGTLHQRSIAELVPKCHPLGSFEQMEAVNIAQTPAEL YNAILVDTPLAAFFQDCISEQDLDEMNIEIIRNTLYKAYLESFYKFCTLLGGTTADAMCPILEFEADRRAFIITI NSFGTELSKEDRAKLFPHCGRLYPEGLAQLARADDYEQVKNVADYYPEYKLLFEGAGSNPGDKTLEDRFFEHEVK LNKLAFLNQFHFGVFYAFVKLKEQECRNIVWIAECIAQRHRAKIDNYIPIF

CCCCGCCCGCCCCGCCCAGCCCGCTGGGCCGCCATGGAGCGCTGGCCTTGGCCGTCGGGCGGCGCCTGGCTGC GCTGTGACTCTGGTTTTGGCAAGGAGACGGCCAAGAAACTGGACTCCATGGGCTTCACGGTGCTGGCCACCGTAT TGGAGTTGAACAGCCCCGGTGCCATCGAGCTGCGTACCTGCTGCTCCCCTCGCCTAAGGCTGCTGCAGATGGACC TGACCAAACCAGGAGACATTAGCCGCTTGCTAGAGTTCACCAAGGCCCACACCACCAGCACCGGCCTGTGGGGCC TCGTCAACAACGCAGGCCACAATGAAGTAGTTGCTGATGCGGAGCTGTCTCCAGTGGCCACTTTCCGTAGCTGCA TGGAGGTGAATTTCTTTGGCGCGCTCGAGCTGACCAAGGGCCTCCTGCCCCTGCTGCGCAGCTCAAGGGGCCGCA TCGTGACTGTGGGGAGCCCAGCGGGGGACATGCCATATCCGTGCTTGGGGGCCTATGGAACCTCCAAAGCGGCCG TGGCGCTACTCATGGACACATTCAGCTGTGAACTCCTTCCCTGGGGGGTCAAGGTCAGCATCATCCAGCCTGGCT AAGAGCTGCTGCAGGCCTACGGCAAGGACTACATCGAGCACTTGCATGGGCAGTTCCTGCACTCGCTACGCCTGG AGGCCTTCTTCATCAGTCACTGTCTGCCTCGAGCACTGCAGCCTGGCCAGCCTGGCACTACCCCACCACAGGACG CAGCCCAGGACCCAAACCTGAGCCCCGGCCCTTCCCCAGCAGTGGCTCGG<u>TGA</u>GCCATGTGCACCTATGGCCCAG CCACTGCAGCACAGGAGGCTCCGTGAGCCTTGGTTCCTCCCCGAAAACCCCCAGCATTACGATCCCCCAAGTGTC $\tt CTGGACCCTGGCCTAAAGAATCCCACCCCACTTCATGCCCACTGCCGATGCCCAATCCAGGCCCGGTGAGGCCACTCATGCCCACTCACTCCACTCCACTCCACTCCACTCCACTCCACTCCACTCCACTCCACTCCACTCCACTCCACTCACTCCACTCCACTCCACTCCACTCCACTCCACTCCACTCCACTCCACTCCACTCCACTCCACTCACTCCACTCCACTCCACTCCACTCCACTCCACTCCACTCCACTCA$ AGGTTTCCCAGTGAGCCTCTGCGCCTCTCCACTGTTTCATGAGCCCAAACACCCTCCTGGCACAACGCTCTACCC TGCAGCTTGGAGAACTCCGCTGGATGGGAGTCTCATGCAAGACTTCACTGCAGCCTTTCACAGGACTCTGCAGAT AGTGCCTCTGCAAACTAAGGAGTGACTAGGTGGGTTGGGGACCCCCTCAGGATTGTTTCTCGGCACCAGTGCCTC AGTGCTGCAATTGAGGGCTAAATCCCAAGTGTCTCTTGACTGGCTCAAGAATTAGGGCCCCAACTACACCCCCC

MERWPWPSGGAWLLVAARALLQLLRSDLRLGRPLLAALALLAALDWLCQRLLPPPAALAVLAAAGWIALSRLARP QRLPVATRAVLITGCDSGFGKETAKKLDSMGFTVLATVLELNSPGAIELRTCCSPRLRLLQMDLTKPGDISRLLE FTKAHTTSTGLWGLVNNAGHNEVVADAELSPVATFRSCMEVNFFGALELTKGLLPLLRSSRGRIVTVGSPAGDMP YPCLGAYGTSKAAVALLMDTFSCELLPWGVKVSIIQPGCFKTESVRNVGQWEKRKQLLLANLPQELLQAYGKDYI EHLHGQFLHSLRLAMSDLTPVVDAITDALLAARPRRRYYPGQGLGLMYFIHYYLPEGLRRRFLQAFFISHCLPRA LQPGQPGTTPPQDAAQDPNLSPGPSPAVAR

4928/6881 FIGURE 4549A

AGTGGCGTCGGAACTGCAAAGCACCTGTGAGCTTGCGGAAGTCAGTTCAGACTCCAGCCCGCTCCAGCCCGGCCC GGCGCTGCTGCTGCTGCAGGTCTCCTCTTGGCTCTGCCAGGAGCCGGAGCCCTGCCACCCTGGCTTTGACGC CGAGAGCTACACGTTCACGGTGCCCCGGCGCCACCTGGAGAGAGGCCGCCTCCTGGGCAGAGTGAATTTTGAAGA TTGCACCGGTCGACAAGGACAGCCTATTTTTCCCTCGACACCCGATTCAAAGTGGGCACAGATGGTGTGATTAC AGTCAAAAGGCCTCTACGGTTTCATAACCCACAGATCCATTTCTTGGTCTACGCCTGGGACTCCACCTACAGAAA AATCCAAGCAGAATTGCTCACATTTCCCAACTCCTCTCCTGGCCTCAGAAGACAGAAGAGAGACTGGGTTATTCC TCCCATCAGCTGCCCAGAAAATGAAAAAGGCCCATTTCCTAAAAACCTGGTTCAGATCAAATCCAACAAAGACAA AGAAGGCAAGGTTTTCTACAGCATCACTGGCCAAGGAGCTGACACACCCCCTGTTGGTGTCTTTATTATTGAAAG TGTGTCATCCAACGGGAATGCAGTTGAGGATCCAATGGAGATTTTGATCACGGTAACCGATCAGAATGACAACAA GCCCGAATTCACCCAGGAGGTCTTTAAGGGGTCTGTCATGGAAGGTGCTCTTCCAGGAACCTCTGTGATGGAGGT CACAGCCACAGACGCGGACGATGATGTGAACACCTACAATGCCGCCATCGCTTACACCATCCTCAGCCAAGATCC TGAGCTCCCTGACAAAAATATGTTCACCATTAACAGGAACACAGGAGTCATCAGTGTGGTCACCACTGGGCTGGA CCGAGAGAGTTTCCCTACGTATACCCTGGTGGTTCAAGCTGCTGACCTTCAAGGTGAGGGGTTAAGCACAACAGC AACAGCTGTGATCACAGTCACTGACACCAACGATAATCCTCCGATCTTCAATCCCACCACGTACAAGGGTCAGGT GCCTGAGAACGAGGCTAACGTCGTAATCACCACACTGAAAGTGACTGATGCTGATGCCCCCAATACCCCAGCGTG GGAGGCTGTATACACCATATTGAATGATGATGGTGGACAATTTGTCGTCACCACAAATCCAGTGAACAACGATGG CATTTTGAAAACAGCAAAGGGCTTGGATTTTGAGGCCAAGCAGCAGTACATTCTACACGTAGCAGTGACGAATGT CATCTTTGTGCCTCCTGAAAAGAGTGGGAAGTGTCCGAGGACTTTGGCGTGGGCCAGGAAATCACATCCTACAC GATTAATCCGGACACTGGTGCCATTTCCACTCGGGCTGAGCTGGACAGGGAGGATTTTGAGCACGTGAAGAACAG CACGTACACAGCCCTAATCATAGCTACAGACAATGGTTCTCCAGTTGCTACTGGAACAGGGACACTTCTGCTGAT CCTGTCTGATGTGAATGACAACGCCCCCATACCAGAACCTCGAACTATATTCTTCTGTGAGAGGAATCCAAAGCC TCAGGTCATAAACATCATTGATGCAGACCTTCCTCCCAATACATCTCCCTTCACAGCAGAACTAACACACGGGGC GGTGGGTGACTACAAAATCAATCTCAAGCTCATGGATAACCAGAATAAAGACCAAGTGACCACCTTAGAGGTCAG CGTGTGTGACTGTGAAGGGGCCGCCGGCGTCTGTAGGAAGGCACAGCCTGTCGAAGCAGGATTGCAAATTCCTGC CATTCTGGGGATTCTTGGAGGAATTCTTGCTTTGCTATTCTGATTCTGCTGCTCTTGCTGTTCTTCGGAGGAG AGCGGTGGTCAAAGAGCCCTTACTGCCCCCAGAGGATGACACCCGGGACAACGTTTATTACTATGATGAAGAAGG AGGCGGAGAAGAGGACCAGGACTTTGACTTGAGCCAGCTGCACAGGGGGCCTGGACGCTCGGCCTGAAGTGACTCG TAACGACGTTGCACCAACCCTCATGAGTGTCCCCCGGTATCTTCCCCGCCCTGCCAATCCCGATGAAATTGGAAA CTATGAAGGAAGCGGTTCCGAAGCTGCTAGTCTGAGCTCCCTGAACTCCTCAGAGTCAGACAAAGACCAGGACTA GACTCGAGAGGCGGGCCCCAGACCCATGTGCTGGGAAATGCAGAAATCACGTTGCTGGTGGTTTTTCAGCTCC CTTCCCTTGAGATGAGTTTCTGGGGAAAAAAAAAGAGACTGGTTAGTGATGCAGTTAGTATAGCTTTATACTCTCT ACTCTTTACATGGTGGTGATGTCCAAAAGATACCCAAATTTTAATATTCCAGAAGAACAACTTTAGCATCAGAAG GTTCACCCAGCACCTTGCAGATTTTCTTAAGGAATTTTGTCTCACTTTTAAAAAGAAGGGGAGAAGTCAGCTACT CCCTCTGCCTTTTTTTTTTTTTTAAGACAGGGTCTCATTCTATCGGCCAGGCTGGAGTGCAGTGGTGCAATCAC AGCTCACTGCAGCCTTGTCCTCCCAGGCTCAAGCTATCCTTGCACCTCAGCCTCCCAAGTAGCTGGGACCACAGG CATGCACCACTACGCATGACTAATTTTTTAAATATTTGAGACGGGGTCTCCCTGTGTTACCCAGGCTGGTCTCAA ACTCCTGGGCTCAAGTGATCCTCCCATCTTGGCCTCCCAGAGTATTGGGATTACAGACATGAGCCACTGCACCTG CCCAGCTCCCCAACTCCCTGCCATTTTTTAAGAGACAGTTTCGCTCCATCGCCCAGGCCTGGGATGCAGTGATGT

4929/6881 FIGURE 4549B

CAGATGGGGTCTTGCTATGTTGCCCAAGCTGGTCTTAAACTCCTGGCCTCAAGCAATCCTTCTGCCTTGGCCCCC CAAAGTGCTGGGATTGTGGCCATGTGTGCCCAGCCTCCATGTTTTAATATCAACTCTCACTCCTGAATT CAGTTGCTTTGCCCAAGATAGGAGTTCTCTGATGCAGAAATTATTGGGCTCTTTTAGGGTAAGAAGTTTGTGTCT TTGTCTGGCCACATCTTGACTAGGTATTGTCTACTCTGAAGACCTTTAATGGCTTCCCTCTTTCATCTCCTGAGT AGCAAGAGTGATATACTCCAGGACTTAGAATAGTGCCTAAAGTGCTGCAGCCAAAGACAGAGCGGAACTATGAAA AGTGGCCTTGGAGATGGCAGGAGAGCTTGTCATTGAGCCTGGCAATTTAGCAAACTGATGCTGAGGATGATTGAG GTGGGTCTACCTCATCTCTGAAAATTCTGGAAGGAATGGAGGAGTCTCAACATGTGTTTCTGACACAAGATCCGT $A \texttt{GAAAATGTGGCCCTAAAGGGGGTTAGTTGAGGGGGTAGGGGGTAGTGAGGATCTTGATTTGGATCTCTTTTTATT$ TAAATGTGAATTTCAACTTTTGACAATCAAAGAAAAGACTTTTGTTGAAATAGCTTTACTGTTTCTCAAGTGTTT TGGAGAAAAAATCAACCCTGCAATCACTTTTTGGAATTGTCTTGATTTTTCGGCAGTTCAAGCTATATCGAATA TAGTTCTGTGTAGAGAATGTCACTGTAGTTTTGAGTGTATACATGTGTGGGTGCTGATAATTGTGTATTTTCTTT ${\tt GGGGGTGGAAAAGGAAAACAATTCAAGCTGAGAAAAGTATTCTCAAAGATGCATTTTTATAAATTTTATTAAACA}$ ATTTTGTTAAACCATAAAAAAAAAAAAAA

4930/6881 FIGURE 4550

MGPWSRSLSALLLLLQVSSWLCQEPEPCHPGFDAESYTFTVPRRHLERGRVLGRVNFEDCTGRQRTAYFSLDTRF
KVGTDGVITVKRPLRFHNPQIHFLVYAWDSTYRKFSTKVTLNTVGHHHRPPPHQASVSGIQAELLTFPNSSPGLR
RQKRDWVIPPISCPENEKGPFPKNLVQIKSNKDKEGKVFYSITGQGADTPPVGVFIIERETGWLKVTEPLDRERI
ATYTLFSHAVSSNGNAVEDPMEILITVTDQNDNKPEFTQEVFKGSVMEGALPGTSVMEVTATDADDDVNTYNAAI
AYTILSQDPELPDKNMFTINRNTGVISVVTTGLDRESFPTYTLVVQAADLQGEGLSTTATAVITVTDTNDNPPIF
NPTTYKGQVPENEANVVITTLKVTDADAPNTPAWEAVYTILNDDGGQFVVTTNPVNNDGILKTAKGLDFEAKQQY
ILHVAVTNVVPFEVSLTTSTATVTVDVLDVNEAPIFVPPEKRVEVSEDFGVGQEITSYTAQEPDTFMEQKITYRI
WRDTANWLEINPDTGAISTRAELDREDFEHVKNSTYTALIIATDNGSPVATGTGTLLLILSDVNDNAPIPEPRTI
FFCERNPKPQVINIIDADLPPNTSPFTAELTHGASANWTIQYNDPTQESIILKPKMALEVGDYKINLKLMDNQNK
DQVTTLEVSVCDCEGAAGVCRKAQPVEAGLQIPAILGILGGILALLILILLLLLFLRRRAVVKEPLLPPEDDTRD
NVYYYDEEGGGEEDQDFDLSQLHRGLDARPEVTRNDVAPTLMSVPRYLPRPANPDEIGNFIDENLKAADTDPTAP
PYDSLLVFDYEGSGSEAASLSSLNSSESDKDQDYDYLNEWGNRFKKLADMYGGGEDD

4931/6881 FIGURE 4551

CCGCCATTGCAGGGAATCCCTGTGCTGATCGTGGGGCATCATATCCTGTATGGGAAAATCATCCACCTGGAGAAA CCTTTTGCAGTCCTTGTCAAACACACTCCTGGGGATCAGGACTGTGATGAGCTTGGCCGCGAGACTGGCACCCGG TACCTGGTGACAGCACTCATCAAAGACAAGATCCTTTTCAAAACCCGCCCCAAGCCCATTATCACCAGCGTCCCC AAGAAAGTATGAAAGAACCTCGGATTTTCCCTAGAGAGCGGCCAACTCCTTGGACTCGTGCTCCGCTGCCACCTC CGGATCCCTTCCTTATGGCGGCCGGTTCTCTTGGTGGAAATCTGACCCCATTTCCAAGGAACCCATCTCCTTTTC CAGCTTCATCAGGCTCATTGGCTTCAAATCCAGCACCTTTCCCGGCTGGTGCTCGTGACCCAAGTATGGCTTCTT CAGGCCCAGGCCCCACCCTAAACCCTAGGACAGGGGCTCTGCCAGGCCCAGGGCCTCTGTCTAACCCCAGGTTAG GGGGTCTCCCAGGACCAGGTCCTATGTCCAACCCAAGGGCAGGTGGTCTCCTGGGAGCAGGTCCTGACCCCAGAG GTGGTGGTCCCATGGGCCCTGGATCTGGACCTAACCTGAGAGCCGGTGTTCTGTTAACCTCTGGGAATGGTCCTC CCAATCCTAGGCCAGTTGGCCTGGGCCCAGGACCAAACCCCAATCTGAGATCAGGCTTTTTAGGGACAAACCCTG $\verb|CCCCAGGTCAGGTGTGTTTCCAGGCCCAGGCCTTGGGCCCAACCCAAGACCAAGTGGCCTGGGCCCAGGCCCTA| \\$ ATCTAGATGCCAGAGCAGGTGGCCTCTTGGGCACAGGATCTGGTCTTAACTTAAGAATGGCTGGACCTCAAGGCC ACATGGGCACAAGCCCATCCTCCATGGCAAGAGTACCTGGCCCCATGGGCCCAAACTCGGGTCCTAGCTCTCGGG GAATTGGCCTTCCAGGGCCAAATCCATCTCCCATGTCAAGGGCTCCTGGCCCCATAGGCCCTAATTCAGCTCATT TCTCAAGGCCAGTTGGCCCCATGGGGGTAAATGCCAATCCCTTTCCCAGGGGAGCAGGTTCATCTGCCTTTTCTC AGTCTTCTGGCACATTGGCATCAAACCCAGCTACCTTCCAAAGGTCCGCTGGCCTCCAGGGCTCAAATCCAACCA TTTTCCCAAGAGCCTCTGGGCCACTTGGCCCCAACCCAGCTAACTTCCCAAGGGCCACTGGCCTGCAGGGTCCAA GTCCAACTACCTTCCCAAGGTCTACTGGCCCATTAGGCCCTGGTCAAGTTACTTTCCCCAGGCCAGCTGCCGGGC ATCTGGGCCCTTCTCCAGCTGGCCCTGTGGGTATCAACCCAGCTCCTTTCACAAGGCCAACTGGGACCCTGGGTC TCAACCCAGCTTCCTTTCCAAGGATGAATGGCCCTGCAGGCAAGAGTTTCGTCCCATTTCCTAGAGTGGGGAGCC TCCCTGGCACAAACCCAGCTGCTTTCCCCAGACCAGGGGGTCCAATGGCTGCAATGTACCCAAATGGAATGTTGC CCCCT<u>TAA</u>ACACCATTTTCCCTCCAGGACCACCTTGGTTTCTAGGCACTGTGGTTCTTGGCAGGGGCTGTCTTAG GTAAAAGGGTAGTTGTGGAGCTACAGTCTGAAGAACATAGCTTGGGCTCAAGTTCAAATGAGCCATCTTTTTCCT TTGCGTTTTTCTTGACTGAAGGTGAGATGTTATTTGTGGCATGTGAACTGTGGCAGGTGGGAATAATCCTGCCCT TGAGAAAGGATCTCCAGCCTCCCAGAAGCCTGCTGTGCTTTCGTCCCACAGCTTTCTGCCCATTGTTTCTTAC TAGTTTCTTGAATTGTTCTTGTGGACTTTTCCTCAGGGATACATTGGCCTGCAGGTCCCAGTTCACATGTAGTCC CCTGCTCACCATTGGAGAATCAGCTCACTGCTCTCTAGAAACGTGGCGTTGGTGAACGGACCATGCTTCCGTAGC TCTGACCTGGGCAGCTTGGACCTGGTCATCCTCTACTGCCATACCTTTCCCTGGGGGGCTTGAACACAGAACAGGG TCCTGGGACTTAGAGGTGGCCAGATTTAAGGCCCCTCTACTCATCCAACTCCCTCTTCACTGGTACTCCCAATCA ATCAAAGAACCTCAAAATTTAAACTGATGTGGATGGGAATATGGGAATTAGGGTGGGGGTGGGGGATGAAGGGAA TTTCTTTAATAAATGGGATGAGAGGGC

MKEPRIFPRERPTPWTRAPLPPRGRLDGSLGPQGGPVLNTGHPLGVNSDPFLMAAGSLGGNLTPFPRNPSPFPAS
SGSLASNPAPFPAGARDPSMASFPRGMNPTGTGAVSFPRPGGLLGPGPGPGPTLNPRTGALPGPGPLSNPRLGGL
PGPGPMSNPRAGGLLGAGPDPRGGGPMGPGSGPNLRAGVLLTSGNGPPNPRPVGLGPGPNPNLRSGFLGTNPAPR
SGVFPGPGLGPNPRPSGLGPGPNLDARAGGLLGTGSGLNLRMAGPQGLDLAPILRAAGLLGANSASFSQASGNMG
TSPSSMARVPGPMGPNSGPSSRGIGLPGPNPSPMSRAPGPIGPNSAHFSRPVGPMGVNANPFPRGAGSSAFSQSS
GTLASNPATFQRSAGLQGSNPTIFPRASGPLGPNPANFPRATGLQGPSPTTFPRSTGPLGPGQVTFPRPAAGHLG
PSPAGPVGINPAPFTRPTGTLGLNPASFPRMNGPAGKSFVPFPRVGSLPGTNPAAFPRPGGPMAAMYPNGMLPP

4933/6881 FIGURE 4553

CTCAGTTAGCGGTGGAGAGGCAGTATGTCCGGTTCAATGCCGAAGCTAGCGGAAGCTAGCGATGGGAAAGGG CAGGAAGTCGAGACCTCAGTCACCTATTACCGGTTGGAGGAGGTGGCAAAGCGCAACTCCTTGAAGGAACTGTGG CTTGTGATCCATGGGCGAGTCTACGATGTCACCCGCTTCCTCAACGAGCACCCTGGAGGAGAAGAGGTTCTGCTG GAACAAGCTGGTGTAGATGCAAGTGAAAGCTTTGAAGATGTAGGACACTCTTCTGATGCCAGAGAAATGCTAAAG CAGTACTACATTGGTGATATCCATCCGAGTGACCTTAAACCTGAAAGTGGTAGCAAGGACCCTTCAAAAAATGAT ACATGCAAAAGTTGCTGGGCATATTGGATTTTACCCATCATAGGCGCTGTTCTCTTAGGTTTCCTGTACCGCTAC ${\tt TACACATCGGAAAGCAAATCCTCC} \underline{{\tt TGA}}{\tt GGAGGCCTTGCTGAAGTTAGAAAGTGCATCCACTTTGGGGCGAAAACT}$ AGAGACTTGCTTGGGGGCTGCAGAAGTGCCCTCTCCTCGAATCCTGCCAGTTGCATTCTTCCCCCTTGGAGCCAA GACGATTGGCCAGACATCACCTCAGATCTGAGACCAGCGTCTTCCATCTCTCAGAGCCTTACTCCCAAAGTACCT GCTCACTGTTCCGTGTTGAACAATTGCCGGTGTTTCCTCTCTCACTGGTTTCCATGAGTACCCTTATATTTCAC AACTTTCTGTTCATAAGTTATAGTGACATTGCTCTTTGGTAAAAATGCCTGCTTTCCAATACTTTGATTGCATAT TAGACATTCTTAACAGGGCGGCAGTCTAGTGTTGAAAGTTTTATTTTTCCATTTTTCTTTTAAGTAAATTTTTTT TAAAAAATTCTGATTTAGGGCTAGGTGTGGTGGCTCAGGCCTGTAATCCTGGCACTTTGGGAGGCCAAGGTGGGA TGATTTAATTCTTTTATTTATCATAAGGGGTTTAATTCCTGAAGTAAAGGTTTGCACCTATTAAACTTAAAACTG CCAAATGATTTTTGTTCTTTTATGTGCGTGATAAAAATACAAAGAATGGTGTGGCCACCTCCCTTTCAAGCT AGGGCAGCAGGTAGCTCTTCCCAGCCCCTGAGCCCAGCCCCTTCCCAAGTGGTGCCGGACAAAAAACTACATGGC ${\tt CCTTTCGTGTCTTGGGGGTGAAAGGGAGGGATGAATTGGGGTGATAGAACCCTGGTGAATTCAGAGTAATCTTT}$ CTTTAGAAAACTGGTGTTTTCTAAAGAAACAGGATAGGAGTTTAGAGAAGGCACCAAAGCTTTCACTTTGGTTTG GCACCAGTTTCTAACCATCTGTTTTTTCTACCCTAGCTATCTTTTATTGGTAAAATATAAATGTATAATTATGTT AAGTAAGAGACTCCAGCATGGCCTTCTGTTTGCCCCGCAGTAAAGTAACTTCCATATAAAATGGTATTTGAAAGT GAGAGTTCATGACAACAGACCGTTTTCCATTTCATCTGTATTTTATCTCCGTGACTCCAACTTGTGGGTTTGTTC AAAAAAAAA

4934/6881 FIGURE 4554

MATAEASGSDGKGQEVETSVTYYRLEEVAKRNSLKELWLVIHGRVYDVTRFLNEHPGGEEVLLEQAGVDASESFE DVGHSSDAREMLKQYYIGDIHPSDLKPESGSKDPSKNDTCKSCWAYWILPIIGAVLLGFLYRYYTSESKSS

AGTGGAGAGGCCCCTCCTTCATCCCCCAGGCTCCCTTCCTGGAGCTGCAGCCTCAGCATCCTCCGCCCAGC ACCCCAGGATTCAGGCGTTGGGTCCCGCCCTTGTAGGCTGTCCACCTCAAACGGGCCGGACAGGATATATAAGAG AGAATGCACCGTGCACTACACACGCGACTCCCACAAGGTTGCAGCCGGAGCCGCCCAGCTCACCGAGAGCCTAGT TCCGGCCAGGGTCGCCCCGGCAACCACGAGCCCAGCCAATCAGCGCCCCGGACTGCACCAGAGCCATGGTCGGCA GAAGAGCACTGATCGTACTGGCTCACTCAGAGAGGACGTCCTTCAACTATGCCATGAAGGAGGCTGCTGCAGCGG CTTTGAAGAAGAAAGGATGGGAGGTGGTGGAGTCGGACCTCTATGCCATGAACTTCAATCCCATCATTTCCAGAA AGGACATCACAGGTAAACTGAAGGACCCTGCGAACTTTCAGTATCCTGCCGAGTCTGTTCTGGCTTATAAAGAAG GCCATCTGAGCCCAGATATTGTGGCTGAACAAAAGAAGCTGGAAGCCGCAGACCTTGTGATATTCCAGAGTAAGA AGGCAGTGCTTTCCATCACCACTGGTGGCAGTGGCTCCATGTACTCTCTGCAAGGGATCCACGGGGACATGAATG TCATTCTCTGGCCAATTCAGAGTGGCATTCTGCATTTCTGTGGCTTCCAAGTCTTAGAACCTCAACTGACATATA GCATTGGGCACACTCCAGCAGACGCCCGAATTCAAATCCTGGAAGGATGGAAGAAACGCCTGGAGAATATTTGGG AGGTACAGGATGAGGAGAAAAACAAGAAATTTGGCCTTTCTGTGGGCCATCACTTGGGCCAAGTCCATCCCAACTG ACAACCAGATCAAAGCTAGAAAATGAGATTCCTTAGCCTGGATTTCCTTAACATGTTATCAAATCTGGGTATC AATCGACTGTATTCGTGCATTTTTGGATCATTTTTAACTGATTCTTATGATTACTATCATGGCATATAACCAAAA ACAATTTAATTCCTCTTTTTAGGGCTAAAGTTTTAGGGTACAGTTTGGCTAGGTATCATTCAACTCTCCAATGTT $\tt CTATTAATCACCTCTGTAGTTTATGGCAGAAGGGAATTGCTCAGAGAAGGAAAAGACTGAATCTACCTGCCCT$ AAGGGACTTAACTTGTTTGGTAGTTAGCCATCTAATGCTTGTTTATGATATTTCTTGCTTTCAATTACAAAGCAG TTACTAATATGCCTAGCACAAGTACCACTCTTGGTCAGCTTTTGTTGTTTATATACAGTACACAGATACCTTGAA CAGTCTTGCTCTGTTACCCAGGCTGGAGTGCAGTGGTGTGATCTCGGCTCACTGCAACCTCTGCCTCCCAGGTTC CAGCAATTCTCCTGCCTCAGCCTCCCTAGTAGCTGGGATGACAGGCGCCTGCCATCATGCCTGACTAATTTTTGT CTCAGCCTCCCAAAGTGCTGGGATTACAGGCGTGA

WO 2004/030615 PCT/US2003/028547

4936/6881 FIGURE 4556

GCAGGACATCGGGAAGAACATTTACACCATCCGGGAGGTGGTCACTGAGATTCGGGACAAGGCCACACGCAGGCG GCTCGCTGTCCTGCCCTACGAGCTGCGGTTCAAGGAGCCCTTACCGGAATACGTGCGGCTGGTGACTGAGTTTTC AAAGAAAACAGGAGACTACCCCAGCCTCTCTGCCACGGACATCCAAGTGCTTGCACTCACATACCAGTTGGAAGC AGAGTTTGTTGGGGTGTCTCACCTAAAACAAGAACCACAGAAGGTTAAGGTGAGCTCATCGATTCAGCACCCAGA AACACCTCTGCACATTTCTGGTTTCCATCTGCCCTACAAGCCTAAACCCCCACAAGAAACAGAAAAAGGACACTC AGCTTGTGAGCCTGAGAACCTGGAATTTAGTTCCTTCATGTTCTGGAGAAACCCTTTGCCCAACATCGATCATGA ACTGCAGGAGCTGCTGATTGACAGAGGTGAGGACGTTCCAAGTGAGGAGGAGGAGGAGGAAGAAAACGGGTTTGA AGACAGAAAAGATGACAGCGATGACGACGGGGGTGGCTGGATAACCCCCAGTAACATCAAGCAGATCCAGCAGGA GCTGGAGCAGTGTGACGTCCCCGAGGACGTGCGGGTTGGCTGCCTGACCACAGACTTCGCCATGCAGAATGTTCT GCTGCAGATGGGGCTGCACGTGCTGGCGGTGAACGCCATGCTGATTCGTGAGGCCCGGAGCTACATCTTGCGCTG ${\tt CCATGGCTGTTTCAAGACAACGTCTGACATGAGCCGAGTGTTCTGCTCACACTGTGGGAACAAGACCCTGAAGAA}$ AGTGTCCGTGACCGTCAGCGACGACGCACCCTGCACATGCACTTCTCCCGCAACCCCAAGGTGCTGAACCCCCG CGGCCTCCGGTACTCCCACTCCCAAAGGGGGCAAATACGCCATCAACCCCCATCTCACCGAGGATCAGCG CTTCCCTCAGCTGCGACTCTCCCAAAAGGCCAGGCAGAAAACCAACGTGTTCGCCCCTGACTACATCGCCGGGGT GTCACCCTTTGTCGAGAATGACATCTCCAGCCGCTCAGCTACCCTGCAGGTCCGGGACAGCACCTTGGGAGCTGG GCGGAGACGCTTAAATCCCAACGCTTCCAGAAAGAAGTTTGTGAAGAAAAGG**TGA**AGAGCGAGTTCCCGCAGGCA AATTGGATGGCCGCCGTGGAGTTCCGGTGACCCATTTCCCCAGCCGTGTCGTCTCCAGGACCACCCG ATGGAAATAACAGGCGGGCTTCACGGTGCGGCTCTGTCCGCCCATGCCCCGCTGGGTCTGCAGGGAACTGGACTG CGCCCTGGAGCCAATCTTCAAGAAAGGAATTTCCAAAGGATAATATTTTTCTAATAAATGCGGCTGCAACCTCCT GTGCATTTAATTAAATAGGCCAAATTTTTGCTGCTTAGGTCATCTCAAGGCTGATACTTGAGCTGTGTGCCCAGA AAAAAAA

MAPVEHVVADAGAFLRHAALQDIGKNIYTIREVVTEIRDKATRRLAVLPYELRFKEPLPEYVRLVTEFSKKTGD YPSLSATDIQVLALTYQLEAEFVGVSHLKQEPQKVKVSSSIQHPETPLHISGFHLPYKPKPPQETEKGHSACEPE NLEFSSFMFWRNPLPNIDHELQELLIDRGEDVPSEEEEEEEENGFEDRKDDSDDDGGGWITPSNIKQIQQELEQCD VPEDVRVGCLTTDFAMQNVLLQMGLHVLAVNGMLIREARSYILRCHGCFKTTSDMSRVFCSHCGNKTLKKVSVTV SDDGTLHMHFSRNPKVLNPRGLRYSLPTPKGGKYAINPHLTEDQRFPQLRLSQKARQKTNVFAPDYIAGVSPFVE NDISSRSATLQVRDSTLGAGRRRLNPNASRKKFVKKR

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FLEVTCINPTFICDHPQIMSPLAKWHRSKEGLTERFELFVMKKEICNAYTELNDPMRQRQLFEEQAKAKAAGDDE
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MKMLPGVDVFGTGSSARVLVPLLRAEGFTVEALWGKTEEEAKQLAEEMNIAFYTSRTDDILLHQDVDLVCISIPP PLTRQISVKALGIGKNVVCEKAATSVDAFRMVTASRYYPQLMSLVGNVLRFLPAFVRMKQLISEHYVGAVMICDA RIYSGSLLSPSYGWICDELMGGGGLHTMGTYIVDLLTHLTGRRAEKVHGLLKTFVRQNAAIRGIRHVTSDDFCFF QMLMGGGVCSTVTLNFNMPGAFVHEVMVVGSAGRLVARGADLYGQKNSATQEELLLRDSLAVGAGLPEQGPQDVP LLYLKGMVYMVQALRQSFQGQGDRRTWDRTPVSMAASFEDGLYMQSVVDAIKRSSRSGEWEAVEVLTEEPDTNQN LCEALQRNNL

PCT/US2003/028547

4955/6881 FIGURE 4575

WO 2004/030615 PCT/US2003/028547

4956/6881 FIGURE 4576

 ${\tt MGDKPIWEQIGSSFIQHYYQLFDNDRTQLGAIYIDASCLTWEGQQFQGKAAIVEKLSSLPFQKIQHSITAQDHQPTDDSCIISMVVGQLKADEDPIMGFHQMFLLKNINDAWVCTNDMFRLALHNFG}$

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4961/6881 FIGURE 4581A

ACGATGCCTCACTTCACCGTGGTGCCAGTGGACGGGCCGAGGCGCGACTATGACAACCTCGAGGGGCTCAGT CTTTCCCCCTTGGAGGCTTCCAGAGGAATTGACTACTATGACAGGAACCTGGCACTGTTTGAGGAAGAGCTGGAC ATCCGCCCAAAGGTATCGTCTCTTCTGGGAAAGCTCGTCAGCTACACCTCACCCAGGGCGCCCAAAGAGCAT GAGGAGGCCGAGAGTGGGGAGGGCACCCGCGGAGGGCACCCGAGCATGGGCACCCTCATGGGGGTG TACCTGCCTGCCTGCAGAATATCTTTGGGGTTATCCTCTTCCTGCGGCTGACCTGGATGGTGGGCACAGCAGGT GTGCTACAGGCCCTCCTCATCGTGCTTATCTGCTGCTGTTGTACCCTGCTGACGGCCATCTCCATGAGTGCCATC GCCACCAACGGTGTGCTTCCAGCTGGGGGCTCCTATTTCATGATCTCTCGTTCACTGGGGCCAGAATTTGGAGGT GCTGTGGGCCTGTGCTTCTACCTGGGAACAACATTCGCAGCAGCCATGTACATCCTGGGGGCCATCGAGATCTTG CTGACCTACATTGCCCCACCAGCTGCCATTTTTTACCCATCGGGTGCTCATGACACGTCGAATGCCACTTTGAAC AATATGCGTGTGTATGGGACCATTTTCCTGACCTTCATGACCCTGGTGGTGTTTTGTGGGGGGTCAAGTATGTGAAC AAATTTGCCTCGCTCTTCCTGGCCTGTGTGATCATCTCCATCTCCATCTATGCTGGGGGGCATAAAGTCTATA TTTGACCCTCCCGTGTTTCCGGTATGCATGCTGGGCAACAGGACCCTGTCCCGGGACCAGTTTGACATCTGTGCC AAGACAGCTGTAGTGGACAATGAGACAGTGGCCACCCAGCTATGGAGTTTCTTCTGCCACAGCCCCAACCTTACG ACCGACTCCTGTGACCCCTACTTCATGCTCAACAATGTGACCGAGATCCCTGGCATCCCCGGGGCAGCTGCTGGT GTGCTCCAGGAAAACCTGTGGAGCGCCTACCTGGAGAAGGGTGACATCGTGGAGAAGCATGGGCTGCCCTCCGCA GATGCCCCGAGCCTGAAGGAGAGCCTGCCTCTGTACGTGGTCGCTGACATCGCCACATCCTTCACCGTGCTGGTC GGCATCTTCTCCCTTCTGTAACAGGCATCATGGCTGGCTCAAACCGCTCTGGGGACCTTCGTGACGCCCAGAAG TCTATCCCTGTGGGGACCATTCTGGCCATCATTACAACTTCCCTCGTGTACTTCAGCAGTGTGGTTCTCTTTGGT GCCTGCATTGAGGGTGTGGTTCTCCGGGACAAGTATGGCGATGGTGTCAGCAGGAACTTGGTGGTGGGCACACTG GCCTGGCCTTCACCCTGGGTCATCGTCATCGGCTCCTTCTTTTCAACGTGTGGCGCTGGCCTCCAGAGCCTCACA GGGGCACCACGCCTATTGCAGGCCATTGCCAAGGACACATCATCCCCTTCCTCCGGGTGTTTTGGCCACGGGAAG GACATGGTGGCCCCCATCTTATCCATGTTCTTTCTGATGTGCTACCTGTTCGTGAACCTCGCCTGTGCGGTGCAG CTCTGCCTGGCCCTTATGTTTGTCTCCTCCTGGTACTATGCCCTGGTGGCCATGCTCATCGCCGGCATGATCTAC AAATACATCGAGTACCAAGGGGCTGAGAAGGAGTGGGGTGACGGGATCCGAGGCCTGTCCCTGAGCGCTGCCCGC TACGCGCTGTTGCGGCTGGAGGAGGGGCCTCCTCACACCAAGAACTGGCGGCCGCAGCTGCTGGTGCTGAAG CTGGACGAGGACCTCCACGTGAAGTACCCGCGGCTCCTCACCTTCGCCTCCCAGCTCAAGGCTGGCAAGGGCCTG ACCATTGTTGGTTCTGTCATCCAGGGGAGCTTCTTGGAGAGCTATGGCGAGGCTCAGGCCGCCGAGCAGACCATC AAGAACATGATGGAAATTGAGAAGGTGAAGGGCTTCTGCCAGGTGGTGGTGGCCAGCAAGGTGCGGGAGGGGCTG GCCCACCTCATCCAGTCCTGTGGCCTGGGAGGCATGCGGCATAACTCCGTGGTGCTGGGCTGGCCCTACGGCTGG CGACAGAGCGAGGACCCCCGTGCCTGGAAGACCTTCATTGACACCGTGCGCTGCACTACGGCTGCCCACCTGGCC CTGCTCGTGCCCAAGAACATCGCCTTCTACCCCAGCAACCACGAGCGCTACCTGGAGGGCCACATAGACGTGTGG TGGATCGTGCACGATGGTGGCATGCTCATGCTTCTGCCCTTCCTGCTGCGCCAGCATAAGGTCTGGAGGAAGTGC CGGATGCGCATCTTCACAGTGGCCCAGATGGATGACACAGCATCCAGATGAAGAAGGACCTGGCTGTCTTTCTG TACCATCTGCGCCTTGAGGCCGAGGTGGAGGTGGTGGAGATGCATAACAGTGACATCTCTGCATACACCTACGAG CGGACGCTGATGATGGAGCAGCGGTCGCAGATGCTGCGGCAGATGAGACTGACCAAGACTGAGCGGGAGCGAGAA GCCCAGCTGGTCAAGGATCGGCACTCGGCCCTGAGGCTGGAGAGCCTGTACTCGGACGAGGAAGATGAGTCTGCA GTGGGGGCTGACAAGATCCAGATGACGTGGACCAGGGACAAGTACATGACTGAGACCTGGGACCCCAGCCATGCC CCTGACAATTTCCGGGAGCTGGTGCACATTAAGCCGGACCAATCCAATGTGCGGCGCATGCACACTGCTGTGAAG AGTGAGGGCGACGAGAACTACATGGAGTTCCTCGAGGTGCTGACCGAGGGCCTTGAGCGGGTGCTGTTGGTGCGC GGTGGTGGCCGTGAAGTCATCACCATCTACTCCTGAGCCCAGTGTCATCTTGTGGCCTGGAGTCGAGGTCTTGGC TGTCCTGGACCCAGCTTTGCTAGGTCTCCTTGGAAACCAGGCCTGGGCCTCAAAATGGAGATGGATCCCAGGTCT TGTGGGACCCTGGGATGTTTGGGGACTTTACTATCTAGCACCCCAGTAGGCCTGTCCTGGCCAGAGAAGACTGGT

4962/6881 FIGURE 4581B

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EGDENYMEFLEVLTEGLERVLLVRGGGREVITIYS

ATCGCCAGCCTCCAGTCCTCCACGACGCCCCTTCCCCAAGGCTGGCCGGGTCTGGATGTCGCCATCCCCT ATTCGGAGCTACAGACCTCGCAGCTGAACTCTTAAAAAGAACCTCGCTTCTTCCTCACGGTGCTCCAGCTCCACA CGCACTAAGGGAAACATGGCTCTAACGCGGCCGGTGCGGCTCTTTTCCCTCGTGACTCGGTTGCTCCTGGCGCCG CGACGGGGCCTCACGGTCCGCAGTCCCGACGAACCCCTGCCGGTGGTGCGCATCCCAGTGGCTCTACAGCGGCAG TTGGAACAGCGGCAGAGCAGGCGGGGAACCTCCCGAGGCCGGTGCTGGTTCGACCCGGACCGCTGCTGGTTTCG CCTGAAGTCGTTCAGCCCACAACCGTGCAGTCTAGCACCATCCCCTCACTACTTCGCGGCCGCCATGTCGTTTGC ATCAGGCTGCAGCTGTCCAGACAGCCTTCAGCAGATGTGCTTGTGGCCACTCCAGGGGCTCTGTGGAAGGCCCTG AAAAGTCGACTGATCAGTCTGGAGCAACTCTCCTTCTTGGTGTTGGATGAGGCAGACACACTGCTGGATGAAAGC TTCCTGGAACTGGTGGACTACATCTTAGAGAAGAGCCACATAGCAGAAGGCCCAGCTGACTTGGAAGACCCCTTC AATCCCAAAGCTCAGTTAGTGCTGGTAGGAGCCACATTTCCCGAAGGTGTAGGCCAGTTGCTGAATAAAGTCGCC AGCCCAGATGCTGTCACCACCATCACCAGCTCCAAGCTCCACTGTATCATGCCTCATGTGAAACAGACATTTCTG AGACTGAAGGGAGCAGATAAGGTGGCCGAGCTGGTGCACATCCTCAAGCATCGTGACAGAGCAGAAAGGACTGGT AAAATCCAACACCTAAGGTTGCAGGGGCAAATGCCAGCCTTGATGAGGGTAGGAATCTTCCAGTCCTTCCAGAAG AGCTCCCGAGACATACTTCTCTGCACAGACATAGCCTCTCGGGGCCTGGACAGCACTGGTGTGGAGCTGGTTGTC AATTATGATTTCCCCCCAACGCTGCAAGATTACATCCACAGAGCAGGGAGGTGGGCCGTGTGGGGAGCGAGGTG CCAGGCACCGTCATCAGTTTTGTGACCCATCCCTGGGATGTGAGCCTGGTTCAGAAGATTGAGCTGGCGGCTCGC CGAAGGAGACTTCCAGGACTAGCATCCTCGGTGAAAGAGCCTTTGCCCCAAGCAACCTGATTTTGACAAATC TGATTAAAATGTGATGCTAGAACAGGGATCTTTCCCAGTATCTTGAGTGGGTGACCACACTTGTCAGTGGGAGGC TCTGGGCTGCCCTGTCGGCTCCTTGAGGGCGGGATGAACTGCTTTGTGACTTGGAAAGGTACGCTGCCCAGC ATTGGAGAAGAAGCTGCTGAGCATGGCTTTCTGTAGTCTTTAGCAAGACACAAGTGGATTTTGACTTTGTATCAT GTCATGATTTCTAACAATAAATGATGTTTTTTATGTGC

TTACTCTGTACAAAGCCAGAACACATATATCAAAGTAATCCTGAAGTATCAGAACAAAATAATAGGCTGTAACAG AGGAGGAAATGATTTTGAATAGCCTCTCTCTGTGTTACCATAATAAGCTAATCCTGGCCCCAATGGTTCGGGTAG GGACTCTTCCAATGAGGCTGCTGGCCCTGGATTATGGAGCGGACATTGTTTACTGTGAGGAGCTGATCGACCTCA AGATGATTCAGTGCAAGAGAGTTGTTAATGAGGTGCTCAGCACAGTGGACTTTGTCGCCCCTGATGATCGAGTTG TCTTCCGCACCTGTGAAAGAGAGCAGAACAGGGTGGTCTTCCAGATGGGGACTTCAGACGCAGAGCGAGGCCCTTG CTGTGGCCAGGCTTGTAGAAAATGATGTGGCTGGTATTGATGTCAACATGGGCTGTCCAAAACAATATTCCACCA AGGGAGGAATGGGAGCTGCCCTGCTGTCAGACCCTGACAAGATTGAGAAGATCCTCAGCACTCTTGTTAAAGGGA CACGCAGACCTGTGACCTGCAAGATTCGCATCCTGCCATCGCTAGAAGATACCCTGAGCCTTGTGAAGCGGATAG AGAGGACTGGCATTGCTGCCATCGCAGTTCATGGGAGGAAGCGGAGGAGCGACCTCAGCATCCTGTCAGCTGTG AAGTCATCAAAGCCATTGCTGATACCCTCTCCATTCCTGTCATAGCCAACGGAGGATCTCATGACCACATCCAAC AGTATTCGGACATAGAGGACTTTCGACAAGCCACGGCAGCCTCTTCCGTGATGGTGGCCCGAGCAGCCATGTGGA ACCCATCTATCTTCCTCAAGGAGGGTCTGCGGCCCCTGGAGGAGGTCATGCAGAAATACATCAGATACGCGGTGC AGTATGACAACCACTACACCAACACCAAGTACTGCTTGTGCCAGATGCTACGAGAACAGCTGGAGTCGCCCCAGG GAAGGTTGCTCCATGCTGCCCAGTCTTCCCGGGAAATTTGTGAGGCCTTTGGCCCTTGGTGCCTTCTATGAGGAGA CCACACAGGAGCTGGATGCCCAGCAGGCCAGGCTCTCAGCCAAGACTTCAGAGCAGACAGGGGAGCCAGCTGAAG ATACCTCTGGTGTCATTAAGATGGCTGTCAAGTTTGACCGGAGAGCATACCCAGCCCAGATCACCCCTAAGATGT GCCTACTAGAGTGGTGCCGGAGGGAGAGTTGGCACAGCCTGTGTATGAAACGGTTCAACGCCCTCTAGATCGCC TGTTCTCCTCTATTGTCACCGTTGCTGAACAAAAGTATCAGTCTACCTTGTGGGACAAGTCCAAGAAACTGGCGG AGCAGGCTGCAGCCATCGTCTGTCTGCGGAGCCAGGGCCTCCCTGAGGGTCGGCTGGGTGAGGAGAGCCCTTCCT TGCACAAGCGAAAGAGGGAGGCTCCTGACCAAGACCCTGGGGGCCCCAGAGCTCAGGAGCTAGCACAACCTGGGG ATCTGTGCAAGAAGCCCTTTGTGGCCTTGGGAAGTGGTGAAGAAAGCCCCCTGGAAGGCTGG**TGA**CTACTCTTCC TGCCTTAGTCACCCCTCCATGGGCCTGGTGCTAAGGTGGCTGTGGATGCCACAGCATGAACCAGATGCCGTTGAA CAGTTTGCTGGTCTTGCCTGGCAGAAGTTAGATGTCCTGGCAGGGGCCATCAGCCTAGAGCATGGACCAGGGGCC GCCCAGGGGTGGATCCTGGCCCCTTTGGTGGATCTGAGTGACAGGGTCAAGTTCTCTTTGAAAACAGGAGCTTTT

WO 2004/030615 PCT/US2003/028547

4966/6881 FIGURE 4585

MILNSLSLCYHNKLILAPMVRVGTLPMRLLALDYGADIVYCEELIDLKMIQCKRVVNEVLSTVDFVAPDDRVVFR
TCEREQNRVVFQMGTSDAERALAVARLVENDVAGIDVNMGCPKQYSTKGGMGAALLSDPDKIEKILSTLVKGTRR
PVTCKIRILPSLEDTLSLVKRIERTGIAAIAVHGRKREERPQHPVSCEVIKAIADTLSIPVIANGGSHDHIQQYS
DIEDFRQATAASSVMVARAAMWNPSIFLKEGLRPLEEVMQKYIRYAVQYDNHYTNTKYCLCQMLREQLESPQGRL
LHAAQSSREICEAFGLGAFYEETTQELDAQQARLSAKTSEQTGEPAEDTSGVIKMAVKFDRRAYPAQITPKMCLL
EWCRREKLAQPVYETVQRPLDRLFSSIVTVAEQKYQSTLWDKSKKLAEQAAAIVCLRSQGLPEGRLGEESPSLHK
RKREAPDQDPGGPRAQELAQPGDLCKKPFVALGSGEESPLEGW

4967/6881 FIGURE 4586A

TGTGGCGCCCACGACGACCTCGACTTCAAACTCGTCTTTGGCGAGGACGGGGCGCCGCCGCCCCCCGGGC TCGCGGCCTGCAGATCTTGAGCCAGATGATTGTGCATCCATTTACATCTTTAATGTAGATCCACCTCCATCTACT TTAACCACACCACTTTGCTTACCACATCATGGATTACCGTCTCACTCTTCTGTTTTGTCACCATCGTTTCAGCTC CAAAGTCACAAAAACTATGAAGGAACTTGTGAGATTCCTGAATCTAAATATAGCCCATTAGGTGGTCCCAAACCC TTTGAGTGCCCAAGTATTCAAATTACATCTATCTCCTAACTGTCATCAAGAATTAGATGCACATGAAGATGAC CTACAGATAAATGACCCAGAACGGGAATTTTTGGAAAGGCCTTCTAGAGATCATCTCTATCTTCCTCTTGAGCCA TCCTACCGGGAGTCTTCTCTTAGTCCTAGTCCTGCCAGCAGCATCTCTTCTAGGAGTTGGTTCTCTGATGCATCT GGATCCCCTCTGACTTCTCCTGGTGGCTCTCCAGGGGGGCTGCCCTGGAGAAAACTTGGCATCAACAGTATGGA CTTGGACACTCATTATCACCCAGGCAATCTCCTTGCCACTCTCCTAGATCCAGTGTCACTGATGAGAATTGGCTG AGCCCCAGGCCAGCCTCAGGACCCTCATCAAGGCCCACATCCCCCTGTGGGAAACGGAGGCACTCCAGTGCTGAA GTTTGTTATGCTGGGTCCCTTTCACCCCATCACTCACCTGTTCCTTCACCTGGTCACTCCCCCAGGGGAAGTGTG ACAGAAGATACGTGGCTCAATGCTTCTGTCCATGGTGGGTCAGGCCTTGGCCCTGCAGTTTTTCCATTTCAGTAC TGTGTAGAGACTGACATCCCTCTCAAAACAAGGAAAACTTCTGAAGATCAAGCTGCCATACTACCAGGAAAATTA GAGCTGTGTTCAGATGACCAAGGGAGTTTATCACCAGCCCGGGAGACTTCAATAGATGATGGCCTTGGATCTCAG $\tt CCTGGCCACACCCCTATATTTCGCACATCTTCATTACCTCCACTAGACTGGCCTTTACCAGCTCATTTTGGACAA$ TGTGAACTGAAAATAGAAGTGCAACCTAAAACTCATCATCGAGCCCATTATGAAACTGAAGGTAGCCGAGGGGCA GTAAAAGCATCTACTGGGGGACATCCTGTTGTGAAGCTCCTGGGCTATAACGAAAAGCCAATAAATCTACAAATG TTTATTGGGACAGCAGATGATCGATATTTACGACCTCATGCATTTTACCAGGTGCATCGAATCACTGGGAAGACA GTCGCTACTGCAAGCCAAGAGATAATAATTGCCAGTACAAAAGTTCTGGAAAATTCCACTTCTTCCTGAAAATAAT ATGTCAGCCAGTATTGATTGTGCAGGTATTTTGAAACTCCGCAATTCAGATATAGAACTTCGAAAAGGAGAAACT GATATTGGCAGAAAGAATACTAGAGTACGACTTGTGTTTCGTGTACACATCCCACAGCCCAGTGGAAAAGTCCTT TCTCTGCAGATAGCCTCTATACCCGTTGAGTGCTCCCAGCGGTCTGCTCAAGAACTTCCTCATATTGAGAAGTAC ${\tt AGTATCAACAGTTGTTCTGTAAATGGAGGTCATGAAATGGTTGTGACTGGATCTAATTTTCTTCCAGAATCCAAA}$ ATCATTTTTCTTGAAAAAGGACAAGATGGACGACCTCAGTGGGAGGTAGAAGGGAAGATAATCAGGGAAAAAATGT ${\tt CAAGGGGCTCACATTGTCCTTGAAGTTCCTCCATATCATAACCCAGCAGTTACAGCTGCAGTGCAGTGCACTTT}$ TATCTTTGCAATGGCAAGAGGAAAAAAAGCCAGTCTCAACGTTTTACTTATACACCAGTTTTGATGAAGCAAGAA ${\tt CACAGAGAGAGATTGATTTGTCTTCAGTTCCATCTTTGCCTGTGCCTCATCCTGCTCAGACCCAGAGGCCTTCC}$ TCTGATTCAGGGTGTTCACATGACAGTGTACTGTCAGGACAGAGAAGTTTGATTTGCTCCATCCCACAAACATAT GCATCCATGGTGACCTCATCCCATCTGCCACAGTTGCAGTGTAGAGATGAGAGTGTTAGTAAAGAACAGCATATG ATTCCTTCTCCAATTGTACACCAGCCTTTTCAAGTCACACCACACCTCTGTGGGGTCTTCCTATCAGCCTATG ${\tt CAAACTAATGTTGTGTACAATGGACCAACTTGTCTTCCTATTAATGCTGCCTCTAGTCAAGAATTTGATTCAGTT}$ TTGTTTCAGCAGGATGCAACTCTTTCTGGTTTAGTGAATCTTGGCTGTCAACCACTGTCATCCATACCATTTCAT TCTTCAAATTCAGGCTCAACAGGACATCTCTTAGCCCATACACCTCATTCTGTGCATACCCTGCCTCATCTGCAA CCTTCGTCTCAGTTACAACCTATTACATATGGTCCTTCACATTCAGGGTCTGCTACAACAGCTTCCCCAGCAGCT TCTCATCCCTTGGCTAGTTCACCGCTTTCTGGGCCACCATCTCCTCAGCTTCAGCCTATGCCTTACCAATCTCCT AGCTCAGGAACTGCCTCATCACCGTCTCCAGCCACCAGAATGCATTCTGGACAGCACTCAACTCAAGCACAAAGT ACGGGCCAGGGGGGTCTTTCTGCACCTTCATCCTTAATATGTCACAGTTTGTGTGATCCAGCGTCATTTCCACCT GATGGGGCAACTGTGAGCATTAAACCTGAACCAGAAGATCGAGAGCCTAACTTTGCAACCATTGGTCTGCAGGAC ATCACTTTAGATGATGACCAATTTATATCTGACTTGGAACACCAGCCATCAGGTTCAGCAGAGAAATGGCCTAAC CACAGTGTGCTCATGTCCAGCTCCTTTCTGGAGAATCTAGAGGTGAACGAGATAATTGGGAGAGACATGTCCC AGATTTCTGTTTCCCAAGGAGCAGGGTGAGCAGGCAGGCTCCCCTCCCGAGTCCTGAGTCCCTGGATTTAGGAA GATCTGATGGGCTCTAACAGTGCTTACTGCAGCCTTGTGTCCACCACCACCTCTCCAGCATGTTTCTCTCCTTGG

4968/6881 FIGURE 4586B

ACCTTGGGTTTCCAACTCTGCAGCCTTCAGGTCTGGGGCCAGGAGTGGGACCCACCATTTGTGGGGAAAGTAGCA
TTCCTCCACCTCAGGCCTTGGGTAGATTTGGCAAAAGAACAGGAGCAGCATAGGCTGTTTGAGCTTTGGGGAAAT
GAACTTTGCTTTTTATATTTAACTAGGATACTTTTATATGATGGTGCTTTTGAGTGTGAATGCAGCAGGCTCTCT
TGTTTCCGAGGTGCTGCTTTTGCAGGTGACCTGGTTACTTAGCTAGGATTGGTGATTTGTACTGCTTTATGGTCA
TTTGAAGGGCCCTTTAGTTTTTATGATAATTTTTAAAATAGGAACTTTTGATAAGACCTTCTAGAAGCC

MTTANCGAHDELDFKLVFGEDGAPAPPPPGSRPADLEPDDCASIYIFNVDPPPSTLTTPLCLPHHGLPSHSSVLS PSFQLQSHKNYEGTCEIPESKYSPLGGPKPFECPSIQITSISPNCHQELDAHEDDLQINDPEREFLERPSRDHLY LPLEPSYRESSLSPSPASSISSRSWFSDASSCESLSHIYDDVDSELNEAAARFTLGSPLTSPGGSPGGCPGEETW HQQYGLGHSLSPRQSPCHSPRSSVTDENWLSPRPASGPSSRPTSPCGKRRHSSAEVCYAGSLSPHHSPVPSPGHS PRGSVTEDTWLNASVHGGSGLGPAVFPFQYCVETDIPLKTRKTSEDQAAILPGKLELCSDDQGSLSPARETSIDD GLGSQYPLKKDSCGDQFLSVPSPFTWSKPKPGHTPIFRTSSLPPLDWPLPAHFGQCELKIEVQPKTHHRAHYETE GSRGAVKASTGGHPVVKLLGYNEKPINLQMFIGTADDRYLRPHAFYQVHRITGKTVATASQEIIIASTKVLEIPL LPENNMSASIDCAGILKLRNSDIELRKGETDIGRKNTRVRLVFRVHIPQPSGKVLSLQIASIPVECSQRSAQELP HIEKYSINSCSVNGGHEMVVTGSNFLPESKIIFLEKGQDGRPQWEVEGKIIREKCQGAHIVLEVPPYHNPAVTAA VQVHFYLCNGKRKKSQSQRFTYTPVLMKQEHREEIDLSSVPSLPVPHPAQTQRPSSDSGCSHDSVLSGQRSLICS IPQTYASMVTSSHLPQLQCRDESVSKEQHMIPSPIVHQPFQVTPTPPVGSSYQPMQTNVVYNGPTCLPINAASSQ EFDSVLFQQDATLSGLVNLGCQPLSSIPFHSSNSGSTGHLLAHTPHSVHTLPHLQSMGYHCSNTGQRSLSSPVAD QITGQPSSQLQPITYGPSHSGSATTASPAASHPLASSPLSGPPSPQLQPMPYQSPSSGTASSPSPATRMHSGQHS TQAQSTGQGGLSAPSSLICHSLCDPASFPPDGATVSIKPEPEDREPNFATIGLQDITLDDDQFISDLEHQPSGSA EKWPNHSVLSCPAPFWRI

4970/6881 FIGURE 4588A

GGCACGAGGGCACCATTGGATGCTTACTTTCAGGTGAGCAGGACCCAGCCTGACTTGCCAGCTACCACTTATGAT TCAGAGACTAGGAATCCTGTATCTGAAGAGTTGCAGGTGTCTAGTAGTTCTGATTCTGACAGTGACAGCTCTGCA GAGTATGGAGGGGTTGTTGACCAGGCAGAGGAATCTGGAGCTGTCATTTTAGAAGAGCAACTAGCAGGTGTCTCA GCAGAGCAAGAAGTTACATGTATCGATGGAGGCAAGACCCTCCCCAAACAGCCATCTCCCCAGAAGTCTGAGCCT $\verb|CTGCTACCTTCTGCTTCTATGGATGAGGAAGAAGGGGACACTTGTACAATATGTCTGGAACAGTGGACCAATGCT|\\$ GGGGACCACCGGCTCTCAGCATTACGCTGTGGGCATCTCTTTTGGGTATAGGTGCATTTCCACGTGGCTTAAAGGA CAAGTACGAAAATGTCCCCAGTGCAACAAGAAAGCCAGGCACAGTGACATTGTCGTCCTTTATGCCCGAACCCTG GAGTTAGAATCAGCACAGTGCCGACTCCAACTGCAGGTCCTCACTGATAAGTGCACTAGGCTTCAAAGGCGTGTT CAGGACTTGCAAAAACTTACGTCACATCAAAGTCAGAATTTACAGCAACCCAGGGGCTCCCAAGCATGGGTCCTG AGCTGCTCACCCTCCAGCCAGGGCCAGCACAAGCACAAGTACCACTTCCAAAAAGACCTTCACAGTATCTCAGGCA GGAAACTGCCGGATCATGGCATACTGTGATGCTCTGAGCTGCCTGGTGATATCACAGCCTTCTCCTCAGGCCTCT AAACAGATCCGTGGACTGGCGTTTAGCAGTTACCTCAGAGGCTTGCTACTCTCTGCTTCCCTAGACAACACTATT AAACTGACCAGCCTGGAGACAAATACCGTGGTCCAGACTTATAATGCTGGACGTCCTGTCTGGAGCTGTTGCTGG TGTCTTGATGAGGCTAACTACATCTATGCTGGACTGGCCAATGGTTCAATTCTGGTATATGACGTGCGAAACAC AGCAGTCATGTGCAGGAGTTAGTAGCTCAGAAAGCCAGATGCCCACTGGTCTCCCTGTCATACATGCCCAGAGCT GCCTCAGCTGCATTTCCATATGGTGGGGTGCTGGCTGGAACCTTGGAGGATGCTTCATTCTGGGAACAGAAAATG CGGCACTGTCTTGTGACCTACAGGCCTGATAAAAATCACACCACCATACGAAGTGTGCTGATGGAAATGTCCTAC CTATTGACCAAAAATGCCATTTTCCAAAGCCCAGAGAATGATGGCAACATCCTGGTGTACTGGGGATGAAGCA GCAAATTCTGCCCTGCTGTGGGATGCTGCCAGTGGCTCGTTGCTCCAGGACCTACAGACCGATCAGCCTGTTTTG GACATCTGCCCATTTGAGGTGAACCGTAACAGCTACTTGGCTACCTTAACAGAGAAGATGGTCCACATCTATAAG GACCCTAGGTCACTGAGACACTACAGATTGTGTATCTGTTATGTCCACTAAAAGAGTAATTGATGGGTACTTTAT ${\tt CTACATTATCCATTTCTTGGGTTTAAAGCCTTCATTAACCATTATTGTATGTTGGAAATTCTTATTTCTTTATT$ TTCTGTGTGACTTTCTGGACCTTAGAGAGTGTCCTCTCATCATCTAGGATGTGAGTGGGCATCAAGCATTTTCTG GGGAATATGACATCCCATCTGAGTTGTCCTGTCACTTAAGTATCCTTGAAGGGACTAACCATCGTCTTGGTACTG ATTTGATGCAACGTAGATGTAAAAGAGTATTATTCAGTTGAACACAAGAGGGCACTGTAGAACCTTGTGTCCGGT TTATTTCTGACCTTGAAGGCTGACAATCTTTTAGTAACTTGTCTCATCTCCACACAAGTGTGTGATAGCACACCT GGGTGTGCTTTGTGGCAATAACACTTGTGTTCCAGGTGTGAAGTGCTGGGACATTGGCAGGCCCAGTGATGGAAG CAGCTAGTGAACGATTCCCTTTGCTAATGCCTAGTGCATTAAGTTCATTGCTTTGCGAAAGGTAAGGAAAGAGGC CAGTTGTTTGAGCGGTGGGGAAGATTTTGTTTTTTCTAGCCAGCTTAGGATCTCAGGATTGGTTTTATCCAAGCT AGTGCTTTGAAGAACACTATCTCTTGCCAGGAAAAGATGAGTGATAGGTCAAAGCTTTTACTTGAGTCTCCCCTA GTGTCAGAGATCAGGAGAAAAGACATAAGAGAATTTACAAAAGCTATTCAGACTGCTATTGAAAAACATGAGAAGA ACTTGTCTCCCATTTTGAGAGTTCCTATCTAAATAAAGCCAATTCCTCAGACTGAGGGGCTGTTCTTAAGTGTTC TTTATACATTCCAGTTATCCAGTTAAAGCCTTCCCCATGTGAAGCTGATGTTTGATTCCAGTTTCCTTTGATTTG CCTCCCTAACCTTTTCTAGGGCTCAGTTTGTATTTCTTTGCCTTGCCTCAGACTACTTTGCCAACCCACTTCCAC **AACAGAATATGCTTCAAGATGTGGGCAGGTCAGTGTCCTGTTCATGGGAGAAAATGGCTTAACAGTCTGATTTTC** TCAAATGATTATTGAAGAGTTGTTATCGTTTTTATTATAAAACACTTCTGACCTGTCAATTCAAGAGCTGTTTCT AGGATCTTTCTCCCGGCAAGGGGTTGTTGCACTAGATTTCCCCAGAGTTCCAAGTTCTAGTTGTGCCTTTTAAT GACCCTTTAATATTTTAGGACATAATTTTTTCCTTTTTTAAATTTTTTTGTAGAAATAGATGTTTCACTACGTTG TCCAGGCTGGTCTTGGACTCCTGGCCTCAAGCAATCCTCCCACCTCAGCCTCCTAAAGTGCCAAAATTATAGGCG TTCTCAGAGGAGATACTCCTTTTGATATGTTAATGATTAAGAGTGGTTGCCCAGGCCTAGTTTCAGTGGCAGAAT AGGATTGGAATTAAAAAGCAGAACTCATCTGGCTTCAGCAGATTGCCACCAAGAGGATACAGGTGGTCAGGTCCT

4971/6881 FIGURE 4588B

MKSSLLKEQMLRKQAELESAQCRLQLQVLTDKCTRLQRRVQDLQKLTSHQSQNLQQPRGSQAWVLSCSPSSQGQH KHKYHFQKTFTVSQAGNCRIMAYCDALSCLVISQPSPQASFLPGFGVKMLSTANMKSSQYIPMHGKQIRGLAFSS YLRGLLLSASLDNTIKLTSLETNTVVQTYNAGRPVWSCCWCLDEANYIYAGLANGSILVYDVRNTSSHVQELVAQ KARCPLVSLSYMPRAASAAFPYGGVLAGTLEDASFWEQKMDFSHWPHVLPLEPGGCIDFQTENSSRHCLVTYRPD KNHTTIRSVLMEMSYRLDDTGNPICSCQPVHTFFGGPTCKLLTKNAIFQSPENDGNILVCTGDEAANSALLWDAA SGSLLQDLQTDQPVLDICPFEVNRNSYLATLTEKMVHIYKWE

ATGAACTTCACCACTCGCTCCACCTTCTCCACCAACTACCGGTCCCTGGGCTTTGTCCAGGCGCCCAGCTACAGT GCCCGGCCAGTCAGCATGGCCAGCGTCTATGCAGGCACCAGGGGCTCTGGTTCCTGGATCTCCATGTCCCAC ${\tt TCCGCCAGCTTCTGGGGCCATGGGGTCTGGGGGCCTGTCCGCGGGGATGGCTGGGGGGTCTTGCAAGAATGGGA}$ GGCATCCAGAACAAGAAGGAGACCATGCAAAGCCTGAAGTACTGCCTGACCTCGAACACACTGAAGGAAC CTGGAGATGGAGAACTGGAAGCTAGAGAGCAAAATCCGGGAGCACCTGGAGAAGAAGGGACCCCAGTTCAGAGAC TGGAGCCGTTACTTCCAGACCATCAAGGACCTGAGGGCTCAGATCTTCGCAAATACTGTGGACAATGCCTGCATC GTTCTGCAGATTGACAGTGCCCGTCTTGCAGCTGATGATTTTAGATCTGTGGAGAATGACATCCATGGGCTCTGC AAGGTCATTGATGACACCAGTGTCACTTGGCTGCAGCTGGAGACAGAGTCAAGGCTCGCAAGGAAGAGCTGCTC TTCATGAAGAAGAACCACGGAGAGGAAGTAAAAGGCCTACAAGCCCAGATTGCCAGCTCTGGGTTGACCTTGGAG GACCTCGCCAAGATCATGGCAGACATCTGGGCCCAATATGACAAGCTGGCTCGGAAGAACAGAGAGGAGCTGGAC AAGTACTGGTCTCAGCAGATTGAGGAGAGCACCACGGTGGTCACCACGCAGTCCGTCAAGGTTGGAGCTGCTGAG ACGACACTCACGGAGCTGAGATATACAGTCCAGTCCTTGGAGACTGACCTGGACTCAATGAGAAATCTGAAGGCC AGCTTGGAGAACAGCCTGAGGGAGGTGGAGGCCCGCTACACCCTGCAGATGGAGCAGCTCAACGGGATCCTGCTT TACCTGGAGTCAGAGCTGGCACAGACCCGGGCAGAGGGGTCCTTCTTACTGATGTGTTGCTCTTCATGGCTC GTGAAAACTATTAGAGTCATCCAAGATTCTAAGTTCCTGACTCAGAATCTTACTGTTGTGAACCTTTACACCCAG GTTTGGAGACAGAAAGGAGCACCGCCAAGTGAGGCAGAGCAGTCTCAGAAACATAGGAAAATGGTGGGAAGAGAG ATCAGCAACGTTAACTGGGTGTCAAGAAAACATACCGAGATTGAAGCCATCCACTTCTGCAGGAACACCGAAAAG AAAGGTACAACGCTTGGGGAAAGACTGGATTTCATTAGGGACAGTGACAATACCTGTTTGACA**TAG**

MNFTTRSTFSTNYRSLGFVQAPSYSARPVSSMASVYAGTRGSGSWISMSHSASFWGGMGSGGLSAGMAGGLARMG GIQNKKETMQSLKYCLTSYLNTVRNLEMENWKLESKIREHLEKKGPQFRDWSRYFQTIKDLRAQIFANTVDNACI VLQIDSARLAADDFRSVENDIHGLCKVIDDTSVTWLQLETEIKARKEELLFMKKNHGEEVKGLQAQIASSGLTLE DLAKIMADIWAQYDKLARKNREELDKYWSQQIEESTTVVTTQSVKVGAAETTLTELRYTVQSLETDLDSMRNLKA SLENSLREVEARYTLQMEQLNGILLYLESELAQTRAEGSFLLMCCSSSWLVKTIRVIQDSKFLTQNLTVVNLYTQ VWRQKGAPPSEAEQSQKHRKMVGREISNVNWVSRKHTEIEAIHFCRNTEKKGTTLGERLDFIRDSDNTCLT

4975/6881 FIGURE 4592A

ATAATGGCCGCTTTCAAGGTGTGGATTTTGGCTCCTTGAGCCTGTCTGAGCGAGGGGTGGCAGCGCCGCCCCC AGAATCCGGGACAGAAGGGTCCCAAGAGTCGCGCTTGGTGAGAGAAATCCCAGATCCTGTGATGGGGGACACCAG TGAGGATGCCTCGATCCATCGATTGGAAGGCACTGATCTGGACTGTCAGGTTGGTGGTCTTATTTGCAAGTCCAA AAGTGCGGCCAGCGAGCATGTCTTCAAGGCTCCTGCTCCCCGCCCTTCATTACTGGGACTGGACTTGCTGGC TTCCCTGAAACGGAGAGCGAGAGGAGAAGGACGATGGGGAGGACAAGAAGAAGTCCCAAAGTCTCCTCCTACAA GGACTGGGAAGAGACCAAGGATGACCAGAAGGATGCTGAGGAAGAGGGCGGTGACCAGGCTGGCCAAAATATCCG GAAAGACAGACATTATCGGTCTGCTCGGGTAGAGACTCCCATCCCGGGTGGTGTGAGCGAAGAGTTTTGGGA ACGCAGTCGGCAGAGAGAGCGGGAGCGGAGGGAACATGGTGTCTATGCCTCGTCCAAAGAAGAAAAGGATTGGAA GAAGGAGAAATCGCGGGATCGAGACTATGACCGCAAGAGGGGACAGAGATGAGCGGGATAGAAGTAGGCACAGCAG CAGATCAGAGCGAGATGGAGGGTCAGAGCGTAGCAGCAGAAGAAATGAACCCGAGAGCCCACGACATCGACCTAA AGATGCAGCCACCCCTTCAAGGTCTACCTGGGAGGAGAGAGGACAGTGGCTATGGCTCCTCAAGGCGCTCACAGTG GGAATCGCCCTCCCCGACGCCTTCCTATCGGGATTCTGAGCGGAGCCATCGGCTGTCCACTCGAGATCGAGACAG GTCTGTGAGGGGCAAGTACTCGGATGACACCCCTCTGCCAACTCCCTACAAATATAACGAGTGGGCCGATGA CAGAAGACACTTGGGGTCCACCCCGCGTCTGTCCAGGGGCCGAGGAGACGTGAGGAGGGCGAAGAAGGAATTTC ATTTGACACGGAGGAGGAGCAGCAGTGGGAAGATGACCAGAGGCAAGCCGATCGGGATTGGTACATGATGGA CGAGGGCTATGACGAGTTCCACAACCCGCTGGCCTACTCCTCCGAGGACTACGTGAGGAGGGGGGGAGCACCT GCATAAACAGAAGCAGAAGCGCATTTCAGCTCAGCGGAGACAGATCAATGAGGATAACGAGCGCTGGGAGACAAA $\tt CCGCATGCTCACCAGTGGGTGGTCCATCGGCTGGAGGTGGATGAGGACTTTGAAGAGGACAACGCGGCCAAGGT$ GCATCTGATGGTGCACAATCTGGTGCCTCCCTTTCTGGATGGCCGCATTGTCTTCACCAAGCAGCCGGAGCCGGT GATTCCAGTGAAGGATGCCACTTCTGACCTGGCCATCATTGCTCGGAAAGGCAGCCAGACAGTGCGGAAGCACAG GGAGCAGAAGGAGCGCAAGAAGGCTCAGCACAAACACTGGGAACTGGCGGGGACCAAACTGGGAGATATAATGGG CGTCAAGAAGGAGGAAGACCAGATAAAGCTGTGACGGAGGATGGGAAGGTGGACTACAGGACAGAAGTT TGCAGATCACATGAAGAGAAAGAGCGAAGCCAGCAGTGAATTTGCAAAGAAGAAGTCCATCCTGGAGCAGAGGCA GTACCTGCCCATCTTGCAGTGCAGCAGGAGCTGCTCACTATTATCAGAGACAACAGCATCGTGATCGTGGTTGG GGAGACGGGGAGTGGTAAGACCACTCAGCTGACGCAGTACCTGCATGAAGATGGTTACACGGACTATGGGATGAT TGGGTGTACCCAGCCCCGGCGTGTAGCTGCCATGTCAGTGGCCAAGAGAGTCAGTGAAGAGATGGGGGGGAAACCT TGGCGAGGAGGTGGCTATGCCATCCGCTTTGAAGACTGCACTTCAGAGAACACCTTGATCAAATACATGACTGA CGGGATCCTGCTCCGAGAGTCCCTCCGGGAAGCCGACCTGGATCACTACAGTGCCATCATCATGGACGAGGCCCA CGAGCGCTCCCTCAACACTGACGTGCTCTTTGGGCTGCTCCGGGAGGTAGTGGCTCGGCGCTCAGACCTGAAGCT CATCGTCACATCAGCCACGATGGATGCGGAGAAGTTTGCTGCCTTTTTTGGGAATGTCCCCATCTTCCACATCCC TGGCCGTACCTTCCCTGTTGACATCCTCTTCAGCAAGACCCCACAGGAGGATTACGTGGAGGCTGCAGTGAAGCA GTCCTTGCAGGTGCACCTGTCGGGGGCCCCTGGAGACATCCTTATCTTCATGCCTGGCCAAGAGGACATTGAGGT GACCTCAGACCAGATTGTGGAGCATCTGGAGGAACTGGAGAACGCGCCTGCCCTGGCTGTGCTGCCCATCTACTC TCAGCTGCCTTCTGACCTCCAGGCCAAAATCTTCCAGAAGGCTCCAGATGGCGTTCGGAAGTGCATCGTTGCCAC CTTCAACCCCAGGATTGGCATGGATGCTCTGCAGATCTATCCCATTAGCCAGGCCAATGCCAACCAGCGGTCAGG GCGAGCCGGCAGGACGGCCCAGGTCAGTGTTTCAGGCTCTACACCCAGAGCGCCTACAAGAATGAGCTCCTGAC CACCACAGTGCCCGAGATCCAGAGGACTAACCTGGCCAACGTGGTGCTGCTCAAGTCCCTCGGGGTGCAGGA CCTGCTGCAGTTCCACTTCATGGACCCGCCCCGGAGGACAACATGCTCAACTCTATGTATCAGCTCTGGATCCT CGGGGCCTGGACAACACAGGTGGTCTGACCTCTACCGGGCGGCTGATGGTGGAGTTCCCGCTGGACCCTGCCCT GTCCAAGATGCTCATCGTGTCCTGTGACATGGGCTGCAGCTCCGAGATCCTGCTCATCGTTTCCATGCTCTCGGT CCCAGCCATCTTCTACAGGCCCAAGGGTCGAGAGGGGGGAGAGTGATCAAATCCGGGGAGAAGTTCGCTGTTCCTGA GAGCGATCATTTGACCTACCTGAATGTTTACCTGCAGTGGAAGAACAATAATTACTCCACCATCTGGTGTAACGA TCATTCATCCATGCTAAGGCCATGCGGAAGGTCCGGGAGGTGCGAGCTCAACTCAAGGACATCATGGTGCAGCA GCGGATGAGCCTGGCCTCGTGTGGCACTGACTGGGACATCGTCAGGAAGTGCATCTGTGCTGCCTATTTCCACCA AGCAGCCAAGCTCAAGGGAATCGGGGAGTACGTGAACATCCGCACAGGGATGCCCTGCCACTTGCACCCCACCAG CTCCCTTTTTGGAATGGCCTACACCCCAGATTACATAGTGTATCACGAGTTGGTCATGACCACCAAGGAGTATAT GCAGTGTGTGACCGCTGTGGACGGGGAGTGGCTGGCGGAGCTGGCCCCATGTTCTATAGCGTGAAACAGGCGGG

4976/6881 FIGURE 4592B

MGDTSEDASIHRLEGTDLDCQVGGLICKSKSAASEQHVFKAPAPRPSLLGLDLLASLKRREREEKDDGEDKKKSK VSSYKDWEESKDDQKDAEEEGGDQAGQNIRKDRHYRSARVETPSHPGGVSEEFWERSRQREREREHGVYASSKE EKDWKKEKSRDRDYDRKRDRDERDRSRHSSRSERDGGSERSSRRNEPESPRHRPKDAATPSRSTWEEEDSGYGSS RRSQWESPSPTPSYRDSERSHRLSTRDRDRSVRGKYSDDTPLPTPSYKYNEWADDRRHLGSTPRLSRGRGRREEGEEGISFDTEEERQQWEDDQRQADRDWYMMDEGYDEFHNPLAYSSEDYVRRREQHLHKQKQKRISAQRRQINEDNE RWETNRMLTSGVVHRLEVDEDFEEDNAAKVHLMVHNLVPPFLDGRIVFTKQPEPVIPVKDATSDLAIIARKGSQT VRKHREQKERKKAQHKHWELAGTKLGDIMGVKKEEEPDKAVTEDGKVDYRTEOKFADHMKRKSEASSEFAKKKSI LEQRQYLPIFAVQQELLTIIRDNSIVIVVGETGSGKTTQLTQYLHEDGYTDYGMIGCTQPRRVAAMSVAKRVSEE MGGNLGEEVGYAIRFEDCTSENTLIKYMTDGILLRESLREADLDHYSAIIMDEAHERSLNTDVLFGLLREVVARR SDLKLIVTSATMDAEKFAAFFGNVPIFHIPGRTFPVDILFSKTPQEDYVEAAVKQSLQVHLSGAPGDILIFMPGQ EDIEVTSDQIVEHLEELENAPALAVLPIYSQLPSDLQAKIFQKAPDGVRKCIVATNIAETSLTVDGIMFVIDSGY CKLKVFNPRIGMDALQIYPISQANANQRSGRAGRTGPGQCFRLYTQSAYKNELLTTTVPEIQRTNLANVVLLLKS LGVQDLLQFHFMDPPPEDNMLNSMYQLWILGALDNTGGLTSTGRLMVEFPLDPALSKMLIVSCDMGCSSEILLIV SMLSVPAIFYRPKGREEESDQIREKFAVPESDHLTYLNVYLQWKNNNYSTIWCNDHFIHAKAMRKVREVRAQLKD IMVOORMSLASCGTDWDIVRKCICAAYFHOAAKLKGIGEYVNIRTGMPCHLHPTSSLFGMGYTPDYIVYHELVMT TKEYMQCVTAVDGEWLAELGPMFYSVKQAGKSRQENRRRAKEEASAMEEEMALAEEQLRARRQEQEKRSPLGSVR STKIYTPGRKEQGEPMTPRRTPARFGL

4978/6881 FIGURE 4594

ATTGGGCTGTTGAGCGGGGCCGACCGACGGCCAGGAGTTTCTTTTCTGCGCTTGTGCGTTTTCTGTTCGGTTTC $\tt CTTCCCGCTAGCGGGGCCACGAGGGTTGCTAGGCCAACAGCCCCTGGGTGACTTGGTCTTAGGGTCCTGTCCGGCT$ TGGGGCTGATGAAAGGAGCTGTCCGCGCCCGGGCTCTTCCGAGAAGTGGTTGCTGACAGCCACAAAGTGAAAGGG AGTGAGGCGGCGTGGACGAGTAAGGAGTGACAGTGAGGATTCACATTTGGGTTATTTCAAG<u>ATG</u>AGCTTCCTACT GCCCAAGCTGACTAGCAAAAAGGAAGTAGACCAGGCGATAAAAAGTACTGCTGAGAAGGTGTTGGTTCTCAGGTT GGCTGCTATATACCTGGTGGATGTGGACCAAACTGCAGTTTATACACAGTATTTTGACATCAGTTATATTCCATC TACTGTCTTTTTCTTCAATGGGCAGCATATGAAAGTGGATTATGGATCTCCAGATCACACTAAGTTTGTGGGAAG CTTCAAAACCAAACAAGACTTCATAGATTTGATTGAAGTAATCTATCGAGGAGCAATGAGGGGGAAGCTTATTGT CCAAAGTCCTATTGATCCCAAGAATATTCCCAAATATGACCTTCTCTATCAAGACATT**TAG**TACATTAATTGCTG TCAAAGATGAAGAAGAAGGCACATCTTGACACAGTACCTGAATCCAGCTGTGCTGTTTTCTGGAGTCCTTTTGGA AACATGTGTCCCAGAGGAGAAGAGGTTTGACTTGCGTGTAGAAAACCCGGCCCCTGAGGAAAAAGACCCCACTGGT TCTCTGATGACCTGGGATGCCTAACTGTCTACTCCCTGCAAGCCTCAGAGCAGCCAAGTCATTGGTGTTCATTTT GGCTAGTACAACTTGATTTCATCATGTTCATTTGATACACAAGTGAACTGGAAAGTCACTTCCCATAGAAGCAAA CGGTTCCTCGACTCATACATCCCTCGTGCTTTCCCATCTCCAGTCTGTATTACTGTAGGTTCTCTTCAAATAATT AATTGAGCAGACAAGTTTGTTTTATTTTGGAGCCTTTTTGGCTCTGGCTTTTAAACATTGTCCTGGTTGGCTCAT TTAATTTTTTTTTTTTTTGAGACCGAGTCACTCTTGTCACCCAGGCTGGAGTGCAGTGGCGCGATCTCGGCTC GCCACCATGCCCAGCTAATTTTTTGTATTTTTATAGAGGCGCAGTTTCACCGTGTTAGCCAAGATGGTCTCGATC TCCTGACCTCGTGATCTGCCCTCCTCAGCCTCCCAGGTGCTGGGATTATAGGCGTGAGCCACCGCGCGCACCCCA TTTAATTATTTTTATGTTATAAAATTTAATATGGAAAGTGAGAATTTGAACCTTCACCATCCACCACTCTATTC AGGTAAAACAATGAATGAGCCACCTTAGCAGGAGCAGATTTTTCCCAGAAGCTGCCTCCTCCTGAGGCAGAA AATTGGATTACTAAGGCTCAAAACTAAAAGAGATGTCAGCATTGTTGGATAGAAATGTCACCTATATGGGATTTG CCTGTTTTAATAACTTTGTAAGGAATTCTTGCTCTTCTAGGGGTGCCTGGCGCAACCGTGGGCAAGTTACTGCTC CTCTTTAAACCTCGTGGTGGTTATTGAAACAGATTTATTAGAAGGAGAGGGTAGGTGCAGAGCTGGAGAGCCATG GGTGAGGCAGCTTGTGACCTGCCTAGCAGCCGCTGACCACCTCTCCAACAGAAGCCTAGTCCTGTTCAGAGCAGC TCTTGCTTTTGGCTCATACAGGAGAGAGGGAAGGCTGCCAGGCACTGCTTGTATCCCTGCTGATAAGAGGAGGGA GTCACTCCAGGAATAAGACAAAAGGAGGAGGAGGCCATCACCTCTGGCCTCTTCCATCGTACACTTCCTGTCT CTGGTTTAATCATGATGCATGGAGCTACAACAGCCATCTTAGGTCCCCGAGGTGCCCAGCATCACGTAAAACATC

MSFLLPKLTSKKEVDQAIKSTAEKVLVLRFGRDEDPVCLQLDDILSKTSSDLSKMAAIYLVDVDQTAVYTQYFDI SYIPSTVFFFNGQHMKVDYGSPDHTKFVGSFKTKQDFIDLIEVIYRGAMRGKLIVQSPIDPKNIPKYDLLYQDI

PCT/US2003/028547

4980/6881 FIGURE 4596

 $\tt CTCTTCCAGAGGCAAGACCAAGATGAGTGCCCTGGGAGGTGTCATTGCCCTCCTGCTCTGGGGACAGCTTT$ TTGCAGTGGACTCAGGCAATGATGTCACGGATATCGCAGATGACGGCTGCCCGAAGCCCCCCGAGATTGCACATG GCTATGTGGAGCACTCGGTTCGCTACCAGTGTAAGAACTACTACAAACTGCGCACAGAAGGAGATGGAGTATACA CCTTAAATGATAAGAAGCAGTGGATAAATAAGGCTGTTGGAGATAAACTTCCTGAATGTGAAGCAGATGACGGCT GCCCGAAGCCCCCGAGATTGCACATGGCTATGTGGAGCACTCGGTTCGCTACCAGTGTAAGAACTACTACAAAC TGGATGCCAAAGGCAGCTTTCCCTGGCAGGCTAAGATGGTTTCCCACCATAATCTCACCACAGGTGCCACGCTGA TCAATGAACAATGGCTGCTGACCACGGCTAAAAATCTCTTCCTGAACCATTCAGAAAATGCAACAGCGAAAGACA TTGCCCCTACTTTAACACTCTATGTGGGGAAAAAGCAGCTTGTAGAGATTGAGAAGGTTGTTCTACACCCTAACT ACTCCCAGGTAGATATTGGGCTCATCAAACTCAAACAGAAGGTGTCTGTTAATGAGAGAGTGATGCCCATCTGCC TTACTGACCATCTGAAGTATGTCATGCTGCCTGTGGCTGACCAAGACCAATGCATAAGGCATTATGAAGGCAGCA GCATGTCTAAGTACCAAGAAGACACCTGCTATGGCGATGCGGGCAGTGCCTTTGCCGTTCACGACCTGGAGGAGG ACACCTGGTATGCGACTGGGATCTTAAGCTTTGATAAGAGCTGTGCTGTGGCTGAGTATGGTGTATGTGAAGG TGACTTCCATCCAGGACTGGGTTCAGAAGACCATAGCTGAGAACTAATGCAAGGCTGGCCGGAAGCCCTTGCCTG AAAGCAAGATTTCAGCCTGGAAGAGGGCAAAGTGGACGGGAGTGGACGGAGTGGATGCGATAAGATGTGGTTTG

GGAACCATTGTGGACGTTCCAGTCGGTGAGGAGCTGTTGGGTCGTGAGTTGATGCCCTTGGTAATGCTATTGAT GGAAAGGGTCCAATGGGTTCCAAGACCCATAAAATCATTCCTCGAACTTCAGTGTGGGAACCAATGCCGACTGGC ATTAAGGCTGTGGATAGCTTGGTGCCAATTGGTCGTGGTCAGCATGAGCTCATTATTGGTGACCGAAGGACTGGG AAAACCTCAATTGCTATTGACACAATCATTAACCAGAAACATTTCAATGATAGATCTGAAGAAAAGAAGAAGCTG TACTGTATCTATGTTGCTATTGGTCGAAAGAGATCCACTGTTGCTCAGTTGGTGAAGAGACTTACAGATGCAGAT GCCGTGAAGTACACCACTGTGGTGTCAGCTATGGCCTCAGATGCTGCCCTACTTCAGTACCTGGCTCCTTACTCT GACTGTTCCATGGGAGAGTATTTTAGAGACGATGGCAAATATACTTTGATCATCTATGACGACTTATCCAAACAG GCTGTCGCTTACTGTCAGATGTCTCTGTTGCTCCACCGACCCCCTGGTCGACTATGAAGCAGGCGGCAGGTACC ${\tt ATGAAGCTGGAATTGGCTCAGGATCGTGAGGTTGCTGCTTTTGCCCAGTTTGGTTCTGACCTCAATGCTCCCACT}$ ${\tt CAACAACTATTGAGTCGCGGTGTGCGTCTAACTGAGTTGCTGAAGCAAGGACAGTATCCTCCCATGGTTACTGAA}$ ${\tt CAACAAGTGGCTGTTATCTGTGCGGGTGGAGAGATATAGAGGACATTCCAAAGGAAGTGCTGACAGACTGCGCCC}$ CACCTTGTGAAGGCCAATAGCACTCAAGGCTGCAAGAACAACGTTAATGTGGTAAATACTCCACGGTCTAACCTG AAGAAAACAGCTGACGTGGATGTGAGGCAGATAGGCTTTCACAGGCAGAAGGATGTAAAAATTGTGACAATGGAG AAGAAAAGAGGATTCCTAGCTCATATTTGGAACAAGGAAGTTCAAGATCTCATCCGGGACTATCTGGAAGAAGGA AAGAAGTGGTGGATTGGGCAAAATGTAATGCCATTGAAAAAGCATCAAGACAACAAATACCCAGCAGACGTTGCA GCCAACGGGCCCCCAAAGCCCCTCAGCTGCACCTACCTGTCCAGAAACTTCATTCGGATCTCATCCAAAGGGGAC GGAAATAATTCCCATTTGTACCAGAGACACAAGAAGACAAAAAGAGGAGTTGCAATAGCAAGAGACAAAATGCCC CCAGACTTTCAGGATCATGTGATTCCTGGCCAAGAAATAAAAGCAAAATCATTTTATTCCCCAGTGGATTCGGAT GAAACCGGTGATAAAATCAGGTACAACTCCAAGAGGGAGACACTGGAGAACAGGCATGCTGGGTCTG<u>TAA</u>

MLSVCVSAAVARDLTRKEGGIVKRTGTIVDVPVGEELLGRVVDALGNAIDGKGPMGSKTHKIIPRTSVWEPMPTG
IKAVDSLVPIGRGQHELIIGDRRTGKTSIAIDTIINQKHFNDRSEEKKKLYCIYVAIGRKRSTVAQLVKRLTDAD
AVKYTTVVSAMASDAALLQYLAPYSDCSMGEYFRDDGKYTLIIYDDLSKQAVAYCQMSLLLHRPPWSTMKQAAGT
MKLELAQDREVAAFAQFGSDLNAPTQQLLSRGVRLTELLKQGQYPPMVTEQQVAVICAGGENIEDIPKEVLTDCA
HLVKANSTQGCKNNVNVVNTPRSNLKKTADVDVRQIGFHRQKDVKIVTMEKKRGFLAHIWNKEVQDLIRDYLEEG
KKWWIGQNVMPLKKHQDNKYPADVAANGPPKPLSCTYLSRNFIRISSKGDKCLLKYYFICQTGDFLDGDAHYERN
GNNSHLYQRHKKTKRGVAIARDKMPPDFQDHVIPGQEIKAKSFYSPVDSDETGDKIRYNSKRRHWRTGMLGL

CTGTGGCTGGCCTCCCGGGCCCAGAGCGAAATTAAGGGCATGCCCCCAGCAGCTGACTCAGTCGGCGTGGCGCT TCCCCCAACGTCTGCCGTGCCCCGCCGGGAAGTAGTCCCCGGCCGCCGACTCCAAAGGAAACCGAGGGAG GGTGCCCCGAGTCAGCGCGTGGGTCCCGGCAGCGGCGATCGCGCAGCCAATCCCTGGAAAGGAGGGCGTGGCTAT ATCGGCCCGTGGATCCCTCCGCCCGCGCTTGTTGTGCTGAGGCCGAGGGAGTCGCCATTTTGGATGGTGAACCC TGAAGTCGGTGTCTGCGTCACGGCAGGATTCGGTTAGGAGGAACAGCACAGCATGCTGGGCTCTGGATTTA AAGCTGAGCGCTTAAGAGTGAATTTGAGATTAGTCATAAATCGCCTTAAACTATTGGAGAAAAAGAAAACGGAAC TGGCCCAGAAAGCAAGGAAGGAGATTGCTGACTATCTGGCTGCTGGGAAAGATGAACGAGCTCGGATCCGTGTGG AGCACATTATCCGGGAAGACTACCTCGTGGAGGCCATGGAGATCCTGGAGCTGTACTGTGACCTGCTGCTGCTC GGTTTGGCCTTATCCAGTCTATGAAGGAACTAGATTCTGGTCTGGCTGAATCTGTGTCTACATTGATCTGGGCTG CTCCTCGACTCCAGTCAGAAGTGGCTGAGTTGAAAATAGTTGCTGATCAGCTCTGTGCCAAGTATAGCAAGGAAT ATGGCAAGCTATGTAGGACCAACCAGATTGGAACTGTGAATGACAGGCTAATGCACAAGCTGAGTGTGGAAGCCC CACCCAAAATCCTGGTGGAGAGATACCTGATTGAAATTGCAAAGAATTACAACGTACCCTATGAACCTGACTCTG TGGTCATGGCAGAAGCTCCTCCTGGGGTAGAGACAGATCTTATTGATGTTGGATTCACAGATGATGTGAAGAAAG GAGGCCCTGGAAGAGGGGGGGGGGGGGCTTCACAGCACCAGTTGGTGGACCTGATGGAACGGTGCCAATGCCCA TGCCCATGCCCATGCCTATGCCATCTGCAAATACGCCTTTCTCATATCCACTGCCAAAGGGACCAGTAGATGACA TTAATGCTGATAAGAATATCTCTTCTGCACAGATTGTTGGTCCTGGACCCAAGCCAGAAGCCTCTGCAAAGCTTC CTTCCAGACCTGCAGATAACTATGACAACTTTGTCCTACCAGAGTTGCCATCTGTGCCAGACACACTACCAACTG CATCTGCTGGTGCCAGCACCTCAGCATCTGAAGACATTGACTTTGATGATCTTTCCCGGAGGTTTGAAGAGCTGA AAAAGAAAACATAGGTCTCTTAAACCAGGCAACTTTCACGTTTTGGGAGTTGAGACTGAGCAATTTCTCCTTGTA ACAAAGAATCTCCATGAAATTCTGTTTCATCTGTTAACCGTCACTCAGCACAACACTCCCTCTGGGCTCTCTTCC TGCTCCTCCAGATTCTGCTGCTTTCCAGTTCTCTGTTGATCCTGAGACTAACAATTGGAGACTGAGGCCAGAGCA ACTGGCTCCTGGCAGCTGTGCTTGTCCGTTTCCTGTCAGAGTGATCCCAGGTTTTCCTCCTGGCCCGTCCCATGGT CCCTCCACAGGAGTGTGAGAGGATGGGGGAAGCACTGTGGGAAGACCACCAAAGATGGCTGGACAGTGGGAGAGA GCACGTTGTGAAGCATCCCAGCCTCGTGTTGAGGTTCCAGACTTAGAAACAGACCCCTCTGTACAGGGGGATTGT GGTGAGTGAGAATCAAGGCCACCTTGTGTGTTTTCTCACTCTCGAATGCAAGTGGGAGAGGGAAAATGACTCGGG ACGCCATTGTAACGGTTCCTGGAAGCTGGGCCCTCTCATTGGCATATACAGTACTCCTCGCTGCAGGGCACTGTC CCACCGGGATCCAGTTGCAAAGTTTGTCTTGACAGTTGAAGGCCTCGCTTAGTTGTACTGGATTCTCAGGGAGCC CTCTGTGGCCTTTTGCGTGCTGTTTCCCTTGTACCAGAGGGCGCACCGTGGAAATTCTGTTTTCCCTGT AGCATATTGTGTTGGATTGCATTACTGGCAGAGAAAGGACAAGGTGCCATTCAAGTCCTAGGGTGGGCTTCCAGC TGCCTTAATAGAAGTACTCAAGTCTTTTGGGTAGTGAGCTGGAAAGCCTACAGGAAAAGAGGGGTACCTGTTTTC ATTTGAAAACTTTGATTCATGGAACCTTTAAAACTAATCTCAGAAAAATTTTTTGGTGCCCATGCAGCTGTAGTTG TTCACTGCTTTCCTGGATGGATGGGACTCTTATGTCATAACTTCTGTTACTCCTTTGGCCCATAGCTAAGGTCAT CCTTCCCCACAGGGGTGGCTTTGGGATTGATACAGCTTTTGCTTCTGTAGTATACCTGTACATACTTGT TTCAGGCAGCCTTTCTTTAATGTTTTCAGTTGGTTTGTATTCTGTAGCTCAGTAGCTGCTAATAAAGTTAAAGAT CCTGTG

4984/6881 FIGURE 4600A

TCCACCACGGTCAATGTAGATTCCCTTGCGGAATATGAGAAGAGCCCAGATCAAGAGAGCCCTGGAGCTGGGGACG GTGATGACTGTGTTCAGCTTCCGCAAGTCCACCCCGAGCGGAGAACCGTCCAGGTGATCATGGAGACGCGGCAG GTGGCCTGGAGAAGACCGCTGACAAGATCGAGGGCTTCTTGGATATCATGGAAATAAAAGAAATCCGCCCAGGG ACTCAGTTCGTCCTCAGCACGCTCAGCTTGGCAGCTGACTCTAAAGAGGGATGCAGTTAACTGGCTCTCTGGCTTG AAAATCTTACACCAGGAAGCGATGAATGCGTCCACGCCCACCATTATCGAGAGTTGGCTGAGAAAGCAGATATAT TCTGTGGATCAAACCAGAAGAAACAGCATCAGTCTCCGAGAGTTGAAGACCATCTTGCCCCTGATCAACTTTAAA GTGAGCAGTGCCAAGTTCCTTAAAGATAAGTTTGTGGAAATAGGAGCACACAAAGATGAGCTCAGCTTTGAACAG TTCCATCTCTTCTATAAAAAACTTATGTTTGAACAGCAAAAATCGATTCTCGATGAATTCAAAAAAGGATTCGTCC GTGTTCATCCTGGGGAACACTGACAGGCCGGATGCCTCTGCTGTTTACCTGCATGACTTCCAGAGGTTTCTCATA CATGAACAGCAGGAGCATTGGGCTCAGGATCTGAACAAAGTCCGTGAGCGGATGACAAAGTTCATTGATGACACC ATGCGTGAAACTGCTGAGCCTTTCTTGTTTGTGGATGAGTTCCTCACGTACCTGTTTTCACGAGAAAACAGCATC TGGGATGAGAAGTATGACGCGGTGGACATGCAGGACATGAACAACCCCCTGTCTCATTACTGGATCTCCTCGTCA GCCTGTCGCTGCATTGAACTGGACTGCTGGGACGGCCCGATGGGAAGCCGGTCATCTACCATGGCTGGACGCGG ACTACCAAGATCAAGTTTGACGACGTCGTGCAGGCCATCAAAGACCACGCCTTTGTTACCTCGAGCTTCCCAGTG ATCCTGTCCATCGAGGAGCACTGCAGCGTGGAGCAACAGCGTCACATGGCCAAGGCCTTCAAGGAAGTATTTGGC ATCATCAAGCATAAGAAGCTGGGCCCCCGAGGCGATGTGGATGTCAACATGGAGGACAAGAAGGACGAACACAAG CAACAGGGGGAGCTGTACATGTGGGATTCCATTGACCAGAAATGGACTCGGCACTACTGCGCCATTGCCGATGCC AAGCTGTCCTTCAGTGATGACATTGAACAGACTATGGAGGAGGAAGTGCCCCAGGATATACCCCCTACAGAACTA CATTTTGGGGAGAATGGTTCCACAAGAAGGTGGAGAAGAGGACGAGTGCCGAGAAGTTGCTGCAGGAATACTGC ATGGAGACGGGGGCAAGGATGGCACCTTCCTGGTTCGGGAGAGCGAGACCTTCCCCAATGACTACACCCTGTCC TTCTGGCGGTCAGGCCGGGTCCAGCACTGCCGGATCCGCTCCACCATGGAGGGCGGGACCCTGAAATACTACTTG ACTGACAACCTCACCTTCAGCAGCATCTATGCCCTCATCCAGCACTACCGCGAGACGCACCTGCGCTGCGCCGAG TTCGAGCTGCGGCTCACGGACCCTGTGCCCAACCCCAACCCCACGAGTCCAAGCCGTGGTACTATGACAGCCTG AGCCGCGGAGAGGCAGAGGACATGCTGATGAGGATTCCCCGGGACGGGCCTTCCTGATCCGGAAGCGAGAGGGG TTTGTGCTGGGGACCTCCGCCTATTTTGAGAGTCTGGTGGAGCTCGTCAGTTACTACGAGAAGCATTCACTCTAC CGAAAGATGAGACTGCGCTACCCCGTGACCCCCGAGCTCCTGGAGCGCTACAATATGGAAAGAGATATAAACTCC GAGCCCGGGGGCTGGTGGAAAGGAGACTATGGAACCAGGATCCAGCAGTACTTCCCATCCAACTACGTCGAGGAC ATCTCAACTGCAGACTTCGAGGAGCTAGAAAAGCAGATTATTGAAGACAATCCCTTAGGGTCTCTTTGCAGAGGA ATATTGGACCTCAATACCTATAACGTCGTGAAAGCCCCTCAGGGAAAAAACCAGAAGTCCTTTGTCTTCATCCTG AGCATCCGAGAGATCACCTGGAAGATTGACACCAAGGAGAACAACATGAAGTACTGGGAGAAGAACCAGTCCATC TACAATCAAAAGGGCCTGACCCGCGTCTACCCAAAGGGACAAAGAGTTGACTCTTCAAACTACGACCCCTTCCGC CTCTGGCTGTGCGGTTCTCAGATGGTGGCACTCAATTTCCAGACGGCAGATAAGTACATGCAGATGAATCACGCA TTGTTTTCTCTCAATGGGCGCACGGGCTACGTTCTGCAGCCTGAGAGCATGAGGACAGAAAATATGACCCGATG CCACCCGAGTCCCAGAGGAAGATCCTGATGACGCTGACAGTCAAGGTTCTCGGTGCTCGCCATCTCCCCAAACTT GGACGAAGTATTGCCTGTCCCTTTGTAGAAGTGGAGATCTGTGGAGCCGAGTATGACAACAACAAGTTCAAGACG ACGGTTGTGAATGATAATGGCCTCAGCCCTATCTGGGCTCCAACACAGGAGAAGGTGACATTTGAAATTTATGAC CCAAACCTGGCATTTCTGCGCTTTGTGGTTTATGAAGAAGATATGTTCAGCGATCCCAACTTTCTTGCTCATGCC

4985/6881 FIGURE 4600B

4986/6881 FIGURE 4601

MSTTVNVDSLAEYEKSQIKRALELGTVMTVFSFRKSTPERRTVQVIMETROVAWSKTADKIEGFLDIMEIKEIRP GKNSKDFERAKAVRQKEDCCFT1LYGTQFVLSTLSLAADSKEDAVNWLSGLK1LHQEAMNASTPT11ESWLRKQ1 YSVDQTRRNSISLRELKTILPLINFKVSSAKFLKDKFVEIGAHKDELSFEQFHLFYKKLMFEQQKSILDEFKKDS ${\tt SVFILGNTDRPDASAVYLHDFQRFLIHEQQEHWAQDLNKVRERMTKFIDDTMRETAEPFLFVDEFLTYLFSRENS}$ IWDEKYDAVDMQDMNNPLSHYWISSSHNTYLTGDQLRSESSPEAYIRCLRMGCRCIELDCWDGPDGKPVIYHGWT RTTKIKFDDVVQAIKDHAFVTSSFPVILSIEEHCSVEQQRHMAKAFKEVFGDLLLTKPTEASADQLPSPSQLREK IIIKHKKLGPRGDVDVNMEDKKDEHKQQGELYMWDSIDQKWTRHYCAIADAKLSFSDDIEQTMEEEVPQDIPPTE LHFGEKWFHKKVEKRISAEKLLQEYCMETGGKDGTFLVRESETFPNDYTLSFWRSGRVQHCRIRSTMEGGTLKYY LTDNLTFSSIYALIQHYRETHLRCAEFELRLTDPVPNPNPHESKPWYYDSLSRGEAEDMLMRIPRDGAFLIRKRE GSDSYAITFRARGKVKHCRINRDGRHFVLGTSAYFESLVELVSYYEKHSLYRKMRLRYPVTPELLERYNMERDIN SLYDVSRMYVDPSEINPSMPQRTVKALYDYKAKRSDELSFCRGALIHNVSKEPGGWWKGDYGTRIQQYFPSNYVE DISTADFEELEKQIIEDNPLGSLCRGILDLNTYNVVKAPQGKNQKSFVFILEPKQQGDPPVEFATDRVEELFEWF QSIREITWKIDTKENNMKYWEKNQSIAIELSDLVVYCKPTSKTKDNLENPDFREIRSFVETKADSIIRQKPVDLL ${\tt KYNQKGLTRVYPKGQRVDSSNYDPFRLWLCGSQMVALNFQTADKYMQMNHALFSLNGRTGYVLQPESMRTEKYDP}$ MPPESORKILMTLTVKVLGARHLPKLGRSIACPFVEVEICGAEYDNNKFKTTVVNDNGLSPIWAPTQEKVTFEIY DPNLAFLRFVVYEEDMFSDPNFLAHATYPIKAVKSGFRSVPLKNGYSEDIELASLLVFCEMRPVLESEEELYSSC ROLRRRQEELNNQLFLYDTHONLRNANRDALVKEFSVNENOLOLYQEKCNKRLREKRVSNSKFYS

4988/6881 FIGURE 4603

 ${\tt MALRVVRSVRALLCTLRAVPLPAAPCPPRPWQLGVGAVRTLRTGPALLSVRKFTEKHEWVTTENGIGTVGISNFA} \\ {\tt QEALGDVVYCSLPEVGTKLNKQDEFGALESVKAASELYSPLSGEVTEINEALAENPGLVNKSCYEDGWLIKMTLS} \\ {\tt NPSELDELMSEEAYEKYIKSIEE} \\$

 ${\tt MHPDLSPHLHTEECNVLINLLKECHKNHNILKFFGYCNDVDRELRKCLKNEYVENRTKSREHGIAMRKKLFNPPE}\\ {\tt ESEK}$

GCGCAGGCGCGGCGGCGATGCGAGTGTGTATGTGCGGGCGAGAAGATGGCGGCGGCGGGGGAAGCAGCGTGAGC AGCCGGAGGATCGCGGAGTCCCAATGAAACGGGCAGCCATCCACCACAGCCCGCAGTATATTTTTTGGAGATT TTAGCCCTGATGAATTCAATCAATTCTTTGTGACTCCTCGATCTTCAGTTGAGCTTCCTCCATACAGTGGAACAG TTCTGTGTGGCACACAGGCTGTGGATAAACTACCTGATGGACAAGAATATCAGAGAATTGAGTTTGGTGTCGATG AAGTCATTGAACCCAGTGACACTTTGCCGAGAACCCCCAGCTACAGTATTTCAAGCACACTGAACCCTCAGGCCC ATGGTGTCTCAGGTGGTCTTGGACAAAGGGAGCGTAAAAAGAAGAAAAAGCGGCCACCTGGATATTACAGCTATT TGAAAGATGGTGGCGATGATAGTATCTCCACAGAAGCCCTGGTCAATGGCCATGCCAATTCAGCAGTCCCGAACA GTGTCAGTGCAGAGGATGCAGAATTTATGGGTGACATGCCCCCGTCAGTTACGCCCAGGACTTGTAACAGCCCCC AGAACTCCACAGACTCTGTCAGTGACATTGTGCCTGACAGTCCTTTCCCCGGAGCACTCGGCAGTGACACCAGGA $\tt CTGCAGGGCAGCCAGAGGGGGGCCCCGGGGCTGATTTTGGTCAGTCCTGCTTCCCTGCAGAGGCTGGCAGAGACA$ CCCTGTCAAGGACAGCTGGGGCTCAGCCCTGCGTTGGTACCGATACTACTGAAAACCTTGGAGTTGCTAATGGAC AAATACTTGAATCCTCGGGTGAGGGCACAGCTACCAACGGGGTGGAGTTGCACACCACGGAAAGCATAGACTTGG ACCCAACCAAACCCGAGAGTGCATCACCTCCTGCTGACGGCACGGGCTCTGCATCAGGCACCCTTCCTGTCAGCC AGCCCAAGTCCTGGGCCAGCCTCTTTCATGATTCTAAGCCCTCTTCCTCCTCGCCGGTGGCCTATGTGGAAACTA AGTATTCCCCTCCCGCCATATCTCCCCTGGTTTCTGAAAAGCAGGTTGAAGTCAAAGAAGGGGCTTGTTCCGGTTT CAGAGGATCCTGTAGCCATAAAGATTGCAGAGTTGCTGGAGAATGTAACCCTAATCCATAAACCAGTGTCGTTGC CGATGTACCACCTGATGAAGTTCATTCCTCTGTATTCCAAAGTGCAAAGGCCTTGTACGTCAACACCCATGATAG ACAGCTTTGTTCGGCTAATGAATGAGTTCACTAATATGCCAGTACCTCCAAAACCCCGACAAGCTCTTGGAGATA AAATCGTGAGGGATATTCGCCCTGGAGCTGCCTTTGAGCCCACATATATTTACAGACTCCTGACAGTTAACAAGT CAAGCCTGTCTGAAAAGGGTCGACAAGAAGATGCTGAGGAATACTTAGGCTTCATTCTAAATGGACTTCATGAGG AAATGTTGAACCTAAAGAAGCTTCTCTCACCAAGTAATGAAAAACTTACGATTTCCAACGGCCCCAAAAACCACT AGACTTCCGTCACCCGCCAGGCGGATTTTGTTCAGACTCCAATCACCGGCATTTTTGGTGGACACATCAGGTCTG TGGTTTACCAGCAGAGTTCAAAAGAATCTGCCACTTTGCAGCCATTTTTCACGTTGCAGTTGGATATCCAGTCAG ACAAGATACGCACAGTCCAGGATGCACTGGAGAGCTTGGTGGCAAGAGAATCTGTCCAAGGTTATACCACAAAAA GATTCGTTTATGAGAAGACTGGTGGGTGCCAGAAGCTTATCAAAAATATTGAATATCCTGTGGACTTGGAAATTA GTAAAGAACTGCTTTCTCCAGGGGTTAAAAATAAGAATTTTAAATGCCACCGAACCTATCGGCTGTTTGCAGTGG TGCGCATCGATGACCAGACAGTCAAGGTGATCAACCAGTACCAGGTGGTGAAACCAACTGCTGAACGCACAGCCT AGGACACCACCTCACTCCCCTCTCTCTTTAGTGGCTCTTTTAGAGAGAAACTCTTTCTCCCTTTGCAAA AATGGGCTAGAATGAAAAGGAGATGCCTTGGGGTTCGTGCACAACACACGCTTCTGTTGACTCTAACTTCCAAATC AAAATCATTTGGTTGAAACAGACTGTTGCTTGATTTTAGAAAATACACAAAAACCCATATTTCTGAAATAATGCT GATTCCTGAGATAAGAAAGTGGATTTGATCCCCAGTCTCATTGCTTAGTAGAATAAATCCTGCACCAGCAACAAC ACTTGTAAATTTGTGAAAATGAATTTTATCTTTCCTTAAAAAAGAAATTTTTTAATCCATCACACTTTTCTTCCC TACCCTTTAGTTTTTGATAAATGATAAAAATGAGCCAGTTATCAAAGAAGAACTAGTTCTTACTTCAAAAGAAAA ATAAACATAAAAAATAAGTTGCTGGTTCCTAACAGGAAAAATTTTAATAATTGTACTGAGAGAAACTGCTTACGT ACACATTGCAGATCAAATATTTGGAGTTAAAATGTTAGTCTACATAGATGGGTGATTGTAACTTTATTGCCATTA AAAGATTTCAAATTGCATTCATGCTTCTGTGTACACATAATGAAAAATGGGCCAAATAATGAAGATCTCTCCTTCA GTCTGCTCTGTTTAATTCTGCTGTCTCTCTCTCTAATGCTGCGTCCCTAATTGTACACAGTTTAGTGATATCT AGGAGTATAAAGTTGTCGCCCATCAATAAAAATCACAAAGTTGGTTT

4992/6881 FIGURE 4607

MALHSPQYIFGDFSPDEFNQFFVTPRSSVELPPYSGTVLCGTQAVDKLPDGQEYQRIEFGVDEVIEPSDTLPRTP
SYSISSTLNPQAPEFILGCTASKITPDGITKEASYGSIDCQYPGSALALDGSSNVEAEVLENDGVSGGLGQRERK
KKKKRPPGYYSYLKDGGDDSISTEALVNGHANSAVPNSVSAEDAEFMGDMPPSVTPRTCNSPQNSTDSVSDIVPD
SPFPGALGSDTRTAGQPEGGPGADFGQSCFPAEAGRDTLSRTAGAQPCVGTDTTENLGVANGQILESSGEGTATN
GVELHTTESIDLDPTKPESASPPADGTGSASGTLPVSQPKSWASLFHDSKPSSSSPVAYVETKYSPPAISPLVSE
KQVEVKEGLVPVSEDPVAIKIAELLENVTLIHKPVSLQPRGLINKGNWCYINATLQALVACPPMYHLMKFIPLYS
KVQRPCTSTPMIDSFVRLMNEFTNMPVPPKPRQALGDKIVRDIRPGAAFEPTYIYRLLTVNKSSLSEKGRQEDAE
EYLGFILNGLHEEMLNLKKLLSPSNEKLTISNGPKNHSVNEEEQEEQGEGSEDEWEQVGPRNKTSVTRQADFVQT
PITGIFGGHIRSVVYQQSSKESATLQPFFTLQLDIQSDKIRTVQDALESLVARESVQGYTTKTKQEVEISRRVTL
EKLPPVLVLHLKRFVYEKTGGCQKLIKNIEYPVDLEISKELLSPGVKNKNFKCHRTYRLFAVVYHHGNSATGGHY
TTDVFQIGLNGWLRIDDQTVKVINQYQVVKPTAERTAYLLYYRRVDLL

GGAAGCCGACGCCGCGCTCGCATGCTCGCAGGCGCCGCGTAGCCGTCGCCACCGCCGCCAGCCCGTGCGCCCTCG GGCTCCGCGGCGATGGCCACCAAGATCGACAAAGAGGCTTGCCGGGCGGCGTACAACCTGGTGCGCGACGACGACGGC TCGGCCGTCATCTGGGTGACTTTTAAATATGACGGCTCCACCATCGTCCCCGGCGAGCAGGAGCGGAGTACCAG CACTTCATCCAGCAGTGCACAGATGACGTCCGGTTGTTTGCCTTCGTGCGCTTCACCACCGGGGATGCCATGAGC AAGAGGTCCAAGTTTGCCCTCATCACGTGGATCGGTGAGAACGTCAGCGGGCTGCAGCGCGCCAAAACCGGGACG GACAAGACCCTGGTGAAGGAGGTCGTACAGAATTTCGCTAAGGAGTTTGTGATCAGTGATCGGAAGGAGCTGGAG CCGCCACACCCCCTTGCCAAAGTCATCTGCCTGCTCCCCGGGGGAGAGGACCGCCGGCCTCAGCTACTAGCCC ACCAGCCCACCAGGGAGAAAAGAAGCCATGAGAGGCAGCCCCGCCACCTGTGTCCACAGCCCCCACCTTCCCG TGCAGTGACCCCTTTTCCTGGCATTTCTCTTCCACGCGACGACGTCTGCCTAGTGAGATCTGCATGACCTCACGT TGCTTTCCAGAGCCCGGGCCTATTTTGCCATCTCAGTTTTCCTGGACCCTGCTTCCTGTGTACCACTGAGGGGCA GCTGGGCCAGGAGCTGTGCCCGGTGCCTGCAGCCTTCATAAGCACACGTCCATTCCCTACTAAGGCCCAGACC TCCTGGTATCTGCCCCGGGCTCCCTCATCCCACCTCCATCCGGAGTTGCCTAAGATGCATGTCCAGCATAGGCAG GATTGCTCGGTGGTGAGAAGGTTAGGTCCGGCTCAGACTGAATAAGAAGAGATAAAATTTGCCTTAAAACTTACC TGGCAGTGGCTTTGCTGCACGGTCTGAAACCACCTGTTCCCACCCTCTTGACCGAAATTTCCTTGTGACACAGAG AAGGGCAAAGGTCTGAGCCCAGAGTTGACGGAGGGAGTATTTCAGGGTTCACTTCAGGGGCTCCCAAAGCGACAA GATCGTTAGGGAGAGGCCCAGGGTGGGGACTGGGAATTTAAGGAGAGCTGGGAACGGATCCCTTAGGTTCAGG AAGCTTCTGTGTAAGCTGCGAGGATGGCTTGGGCCGAAGGGTTGCTCTGCCCGCCGCCGCTAGCTGTAAGCTGAGCT AAAGCCCTGGGCTCACAGCACCCCAAAAGCCTGTGGCTTCAGTCCTGCGTCTGCACCACACATTCAAAAGGATCG TTTTGTTTTTAAAGAAAGGTGAGATTGGCTTGGTTCTTCATGAGCACATTTGATATAGCTCTTTTTCTGT TTTTCCTTGCTCATTTCGTTTTGGGGAAGAATCTGTACTGTATTGGGATTGTAAAGAACATCTCTGCACTCAGA CAGTTTACAGAAATAAATGTTTTTTTTTTTTCAG

4994/6881 FIGURE 4609

GCCATGACGCTGCCGAGGTCGAATTCCTCGCCGAGAAGGAGCTGGTTACCATTATCCCCAACTTCAGTCTGGAC .AGGGATCATGAACGAAAGGAAGAAACTTTTACCCCAATGCCCAGCCCTTACTACATGGAACTTACGAAGCTCCTG TTAAATCATGCTTCAGACAACATCCCGAAGGCAGACGAAATCCGGACCCTGGTCAAGGATATGTGGGACACTCGT TTGATGGAGATCAACACCAGCGGGACTTTCCTCACACAAGCGCTCAACCACATGTACAAACTCCGCACGAACCTC $\texttt{CAGCCTCTGGAGAGTACTCAGGTCTCAGGACTTC} \underline{\textbf{rag}}_{\textbf{A}\textbf{G}\textbf{A}\textbf{A}\textbf{A}\textbf{G}\textbf{G}\textbf{CCTGGTGCAGGCGGCTTGCTGGGGGGATGTGAG}$ CGCTCAGGATGTGATGAGGTACTCGTGGTTCTGGAGCTCTAGAAACACTTCTGATGCATGAAAAATGTGTGATGG $\tt TGCAAGGAATGGATTCAGGATGTTGTTGGAGAAACAAGTTTGTGATTAGTCCTTAAAACTTAGCTCCCTGGGACA$ TTCTTCAATTCCACATCTGTTTCTAGAAACCAGCCCTTTTTCCCCCCCACTTTTGAGAAATAAAAAAGCCTTAGGT AAATAAGTCATTCTCCCTAGCAGAGCCACTTGGGTCTCCTGCATGGAAGCCGTCACACTTGGGCAGGTGTTCAGT GACTGGTAGGTGTAGATACAGCAGGAGTGGCCATGTGGTCCACGGCTTTTTACCCCTTCTTGATCCTGATTTCTT GGGCTGAATTTAGACTCTCTCACAGAGGTGGCTCACAGAGAAGGATGGCAGATGGTGCAGCCAACAATGCTGACC

4996/6881 FIGURE 4611

MDAAEVEFLAEKELVTIIPNFSLDKIYLIGGDLGPFNPGLPVEVPLWLAINLKQRQKCRLLPPEWMDVEKLEKMR DHERKEETFTPMPSPYYMELTKLLLNHASDNIPKADEIRTLVKDMWDTRIAKLRVSADSFVRQQEAHAKLDNLTL MEINTSGTFLTQALNHMYKLRTNLQPLESTQSQDF

GGCACGAGGCTTCCCAGAGGCGCGAGTCGCTTTTCCAGGAGCCCAAACGGGCCCGGGCCTGAAGGGTCC CCCGCCAGCCCGCGCCGCCATCAATCGCCGCCGCCTCCTCCGCCTCTCGGCTGAGGCGCCGCGCGCCAGG CAGC GGTCCAGGCCTCAGCCGCGCGCCCAGGGGCCTCCGGGGCCCTCCCGGGTCAGCATCCCCGGGTGAAACT GACCACCCAGGCCTACTGCAAGATGGTGCTGCACGGCGCCAAGTACCCGCACTGCGCCGTCAACGGGCTCCTGGT GGCCGAGAAGCAGAAGCCGCGTAAGGAGCACCTCCCCCTGGGCGGCCCCGGCGCCCACCACCCCTCTTCGTGGA GTGCAAAGATCATAGCTACGTGATTGCTGGTTATTATCAAGCTAATGAGCGAGTAAAGGATGCCAGTCCAAACCA GGTTGCAGAAAGGTGGCCTCCAGAATCGCCGAGGGCTTCAGCGACACTGCGCTCATCATGGTAGACAACACCAA GTTTACGATGGACTGCGTAGCGCCTACGATCCACGTGTACGAGCACCATGAGAACAGATGGCGGTGCAGAGACCC ACACCATGACTACTGTGAAGACTGGCCAGAGGCACAGAGGATCTCAGCCTCGCTCCTGGACAGCCGGTCCTACGA GACGCTCGTGGATTTCGATAACCACCTGGATGACATTCGGAATGACTGGACAAACCCAGAGATCAATAAAGCTGT $\tt CCTACACTTGTGC\underline{TAG}{GCAGGCACCGCTGTGACTGGGCTCCGGGCCTTTCCACTACGTTGAAGAAGAAAACCTAT$ TTTTAAATGTAAATAAAATATCTGGTAGCCTGTGTGGAAAGCTGACCGTTTTAAGAAGTGGCATGTGCCTTGAAA GGGGGCAGAATGTTCAGTCGGTCGTGTTTTTAACACAGAGTCTCTAGAAGAGGTGCAGACATCCCGTCTGACTGT CCCTGTGGACTCTCAGTTGTATGTTGCTATAATCCTCCAAATCAAAGCTCTTTCTGCTTGTGCAAGATTGTTC CTATTAAACAGTTTTAACTAACCTTTTATAATCTGGAGAGAATACTTTTTAAGGCTTTTGAACTATCTTTTTTA AAAAAAAAAAAAGCCCACATCTTATACTCCAATGAGTGTGTTTGTGAGTTTTTATCCTGTTTGAATTTTGATGT CGTCCAGGCGTCCTGGGATCAGGGTAGACACGTGGAGTGCTGGTGCTGAGCTGTTTGAGAAGCTCTGTGTGGGTG TTTCTGTGGTCAGGTAGGCTGGGCTGTGAACAGCACTGCTCCACATGGTGTCGGCTCACAGAGCCACCGCAACTC TGCCCAGCGGGAGTGACACCACTGATGCCACAGAAGCCTTTATCGTTAGGGGCAAAAGCAGACATCTCTGGTAGC AGGAGCTCAGTGTGGTGCTCTTCAGCCACGCAGAAAGCTCACGTGCCTGCAGGGCCAGGAAAGGGAAATGATCGT TTCTTTTGTATTAGGAAAAACAAGACTTAGACTTCCCGAGTTGTGCAGAGTGACGTCTGTACTTTTTATACTTAG AACATTTGGTCAAGTTTTGTAACCAAACCTTAGGGAATTGAGAGGGAAACTTTATGGTACGTTTACCTTTTTTCC TTTTTATATGAATTATTTTGTACAAAGTTCAGAGAGCGGTACCTTTCCTACTGTCTTTTCTTTGACTCCATGGAG GAATTTGTAACGATCGGTGTGACCTGAAAGGGTTTGTGATACAGCGGTCACTATTTTCTCTTAACACATAGGAAA

4998/6881 FIGURE 4613

MPGVKLTTQAYCKMVLHGAKYPHCAVNGLLVAEKQKPRKEHLPLGGPGAHHTLFVDCIPLFHGTLALAPMLEVAL TLIDSWCKDHSYVIAGYYQANERVKDASPNQVAEKVASRIAEGFSDTALIMVDNTKFTMDCVAPTIHVYEHHENR WRCRDPHHDYCEDWPEAQRISASLLDSRSYETLVDFDNHLDDIRNDWTNPEINKAVLHLC

4999/6881 FIGURE 4614

MLATRVFSLVGKRAISTSVCVRAHESVVKSEDFSLPAYMDRRDHPLPEVAHVKHLSASQKALKEKEKASWSSLSM DEKVELYRIKFKESFAEMNRGSNEWKTVVGGAMFFIGFTALVIMWQKHYVYGPLPQSFDKEWVAKQTKRMLDMKV NPIQGLASKWDYEKNEWKK

5001/6881 FIGURE 4616A

GTTCTAGAACATTCTCATCACCCATATTTACATTTATTTTTAATAACTCTCATGTGTAAGCTGAGTGTTTTAAAC TTTAGAGACTTCTGGGGGGTGCTGAACTTGATAAAATATTCAGTATACAAGTGTTCTTTATAGTTCACTCATCA TTTTCATAGAATTAGGGTTTTAAAATTAGAAAGTAATTTAGGCCATTTCCATCTCCTGTCCCTCAAATCCCAGCT CAGTTTTGGGATGAGGTGTCAAGTATAAGTTTGTAAGTATGCCAGTCATTTGCACGGCTAAGAGAAACATCTAGA GAAGTCTATATACGACTTGCTTAAAGCTGAATGTTGATTTACTGTTCACATGATTTTGGGTGATTTTAGTCACTGG GACTGAGCTAATGGAGTTGAAGCATTGTTGCGGGCATTGTACCTCCAGACCAGTGTGTAATACAAAGAGTTCTTG CAGACATAGGACAGAATTGGAGAAACAGCTTCTAACAGTGGGAAGACTCTCAGTACAACCAAGCTATTCCTTACC TTTCTGATTTCTGAACTTTTTTCCATGTGATACCTGCTGCTTTGAAGGCACTAAAATAACAGAAGCAGATAGAGC AGAAATCCTCACTCAGATCTTCCTCCTTCCTACCTGTATAACAGTTTGTGGCTTGCCTTGTCTGTTTTTGTGCGTT TCGTTACGCGTATGTGAGTATGTGCACGTGATTTCCAGAAAGGAGAAGCGCACGATACTGCCCGTGCTCTGTGAC TCCTGAGTGCACGCTTCCTCTGCATTTGGGCTCCTAGGTCGGCCTCGTCCTGTGGACGTTGCCCCTTGTTTCGTG CCATCCACACATTCCTGATGCCCCGCTGCTCTACTCTTTCTCCAGAGTACTTTTTCCAAACATGTGATTTGCACA TTTGTTATGTTTATTGTTTGTTTTCCACTTCTAGAAGTGTGCCACTAGGCAGGAATGTTTGATTTGTTCACTGAT ATCCTCGTTTCTAAGAGCTAGCACGATTTCTCACTCAGTCCTGGTTGGACACAGGTTCCCTGGAACAGTGCTGTT GTGGTTATCTTCTCACGTGTCTTTGTTTCTGAACTTGAAACGCTTTGAGTTTTTTATTGTTTTTTGTTCTTCCTCA TTAGTTTGAGTCCCTTGCAGATAGGCTTTCATTTTGTCCAGTCACCTGTTCAGGGAGCCCTGAGGGCCTTGGCCC AGTGCAGCGGTGCGATCTCAGCTCACTGCAACCTCCGCCTCCTGCGTTCAAGCGATTCTCCTGCCTCAGCCTTCC GAGTAGCTGGGACTATAGGCACGTGCCGCCACGCCCGGCTAATTTTTTGTATTTTAGTAGAGACGGGGTTTCAC AGGTGTGAGCCACCGCGCCCAGCCCTGCAGGTAACTGTTAATGTAGGAAGTGCTGCCTCTGGGCACCTTGGCCCC AGGGTTCATTAGCAGTTGCCCCTGGTGGGTTTTTGTTGGCTGTGATGAGAAGTGCTTCTGTTCCCCCTCCACCAC ACTCCTGCAACTGTTTAAACAGTGGCTGTGACCCCCTGAGATGATCCAGGGTTTCAAGGCGTGCACATGTCTGTG TTTCGGTTTTCAGAAGTATCACCTTGGGGTGACTCTCAACTTACATGGATTTTCAAAGATTTATTCAATATGTTT TTCAGAAAGTGTTGTGAAGAGCGAAGACTTTTCGCTCCCAGCTTATATGGATCGGCGTGACCACCCCTTGCCGGA GGTGGCCCATGTCAAGCACCTGTCTGCCAGCCAGAAGGCATTGAAGGAGAAGGAGAAGGCCTCCTGGAGCAGCCT CTCCATGGATGAGAAAGTCGAGTGTGGGTATTGAAGGGACCCACAGGCGCCCCAGCAGCTCTCGGAAGCGTGTG TGTGACAGAGCCTCTGCTCACTTCTGGGCCTACTGTCTAGAGGCAGTCTTGCACAGGAGGGTTGCTCTGCTGGGT TTCGGGGTCACTGTGCCAGGGCCCCAGTTTATGTGCTCACCAGTCACTTAGCTCTGCCAGCTGACAGGATCTTTT GCTAGGCCCCCTTCTCTGTGCTGAGTGGAGGTAGCCTCTCAGCATATCTGCTGGGTAAGACATAGTTAACTGTAA ATTATTGAAAGAAACTCAGCAAAATGCATAGTGTTTGGTATGAAAGGGGCAGAAAAATAACAAGATTAAATAGAC CCTAATACTGTAATTCAAGTAAGAAATAATTTTGCAGTTTTAATTTGCACCTGAAGCGAACTGTATGCATTTTCT TGGTGTATCCTTCAGCTCTGTGTTTCCTCCTTCACAAGTGTGGTTTTGGGGAGAAGTGGTTGAATGTTGCAGAGG AGGGAGCTGCTGACCTTTGTGCCTGTAAATGGCTGTCCTCTCTGCCCCCAGTGTATCGCATTAAGTTCAAGGAGA GCTTTGCTGAGATGAACAGGGGCTCGAACGAGTGGAAGACGGTTGTGGGCGGTGCCATGTTCTTCATCGGTTTCA TCCAGCCTGCAGTGCCCATTGGTGGGCTGTCGGGGACCTCCATACCTTGAGGCTATGAGATAGGGACTGCATTCC AGAGTTCATCTCAGGATTGTTTCCAGGCCTTGGTGACCTGGAGAACTGAAGTCGTGGGAGGTTAGTTTATAAGCC AGCATCTGATTATTCATAGCCATGCTTGTTGGGTGGTGAAATACCTTAACTACTTTGTACAGCACACCACGTTTT CAGTAGCAATTTATGTGCTCACCAGTCACTTAGCGAAAGATGACTTCGTGAAGGTTCGAGCAAGGATAAGGGGAC GAACAGGCATTTTTGCATTCTGAATAGGTATATTCTCGTACTTTTGGTTTGAATGTGGATGTGGGTTAATAACAG ACCCGAATCTATTTGATCTTCCAGGTCACCTTGGGCTCTGTTTGTCAGATCCTGTTATCCATAGCCTTTAGAGAG

5002/6881 FIGURE 4616B

GCCGTTTTCTTTCCTGGTGTCCCGTCGCGGCTTGGGACCCGGCAAGATCGGCAAGAAGAGGCCAAGAAGAAGAAGAAGAA GGGCCGCGCGCGGAGAAGACGCCCCCAAGATGGAGAAGAAGGTGTCTAAGCGCTCGCGGAAGGAGGAAGAAGA CCTGGAAGCGCTCATAGCCCATTTCCAGACACTCGATGCCAAGAGGACTCAGACTGTGGAACTTCCGTGCCCCCC ACCCTCACCAAGGTTAAATGCCTCCCTCTCGGTTCATCCTGAGAAAGATGAGTTAATCCTTTTTGGAGGTGAATA TTTCAACGGCCAAAAACTTTTTTGTATAACGAGCTCTATGTCTACAATACCAGAAAGGACACCTGGACCAAAGT TGACATCCCCAGTCCACCTCCGAGGCGCTGTGCTCACCAGGCGGTGGTAGTGCCTCAAGGTGGCGGACAGCTGTG GGTCTTTGGAGGGGAGTTTGCCTCTCCCAACGGAGAGCAGTTCTACCACTACAAGGATCTCTGGGTCCTGCATTT GGCCACCAAGACCTGGGAACAAGTCAAATCAACAGGCGGTCCTTCGGGTCGGAGTGGACATCGGATGGTGGCCTG GAAGAGACAATTGATCCTGTTTGGTGGCTTCCATGAAAGTACACGGGATTACATCTACTACAACGACGTGTATGC CTTTAATCTGGACACCTTCACATGGAGCAAGCTGTCCCCGTCAGGGACGGGGCCCACACCCAGATCAGGCTGCCA CAAGGGCACACGGCACTCAGACATGTTCCTGCTGAAGCCAGAGGACGAAGAGAAGACAAGTGGGTTTGGACTCG GATGAACCCTTCGGGGGTCAAGCCCACCCCACGGTCTGGCTTTTCCGTGGCCATGGCCCGAATCACCAGACACT GTTCTTCGGGGGTGTCTGTGACGAGGAAGAGGAGGAGAGCCTGTCGGGCGAGTTCTTCAACGATCTGTACTTCTA CGACGCCACCAGGAACCGTTGGTTTGAGGGACAGCTGAAGGGACCCAAGTCTGAAAAGAAGAAACGCAGGCGGGG CAGAAAAGAGAGCCCGAAGGTGGTAGCAGGCCGGCGTGTGGGGGAGCTGGCACCCAGGGGCCTGTGCAGCTGGT GCCCGGTCTGAGGACGAAGACAGCCTTGAGGAGGCCGGCAGCCCGCACCTGGGCCGTGTCCACGCTCCAACGC CATGCTGGCTGTGAAGCATGGGGTGCTCTACGTCTATGGGGGCCATGTTTGAGGCCGGCGACCGCCAGGTCACCCT CAGCGACCTGCACTGCCTGGACCTGCACAGGATGGAGGCGTGGAAGGCCTTGGTGGAGATGGACCCAGAAACTCA GGAGTGGCTGGAGGAGACGGACTCGGAAGAGGACAGTGAGGAGGTTGAGGGCGCCGAGGGTGGGGTCGACGACGA AGACAGCGGAGAGAGGGGTGCGGAGGACTGAGAAGAGCCCCTGCCAGGGGCGCCTGGCAAGTGCTGTGCCCA AAGGTGGGTGGCCCAGGCCAGGGTGTGAACTTTCTCCCATGGTTTAGTCTCTGACGCGGCACTGGGCCGGAAGTT AAAAAAAAAAA

5004/6881 FIGURE 4618

MGKKGKKEKKGRGAEKTAAKMEKKVSKRSRKEEEDLEALIAHFQTLDAKRTQTVELPCPPPSPRLNASLSVHPEK
DELILFGGEYFNGQKTFLYNELYVYNTRKDTWTKVDIPSPPPRRCAHQAVVVPQGGGQLWVFGGEFASPNGEQFY
HYKDLWVLHLATKTWEQVKSTGGPSGRSGHRMVAWKRQLILFGGFHESTRDYIYYNDVYAFNLDTFTWSKLSPSG
TGPTPRSGCQMSVTPQGGIVVYGGYSKQRVKKDVDKGTRHSDMFLLKPEDGREDKWVWTRMNPSGVKPTPRSGFS
VAMAPNHQTLFFGGVCDEEEEESLSGEFFNDLYFYDATRNRWFEGQLKGPKSEKKKRRRGRKEEPEGGSRPACGG
AGTQGPVQLVKEVVAEDGTVVTIKQVLTAPGSAGQPRSEDEDSLEEAGSPAPGPCPRSNAMLAVKHGVLYVYGGM
FEAGDRQVTLSDLHCLDLHRMEAWKALVEMDPETQEWLEETDSEEDSEEVEGAEGGVDDEDSGEESGAED

5005/6881 FIGURE 4619

GGCGCAGTACACCTGCCCCATCTGCCTGGAGGTCTATCACCGGCCCGTGGCCATCGGCAGCTGCGGCCACACGTT CTGCGGGGAGTGTCTCCAGCCCTGCCAGGTGCCATCCCCGCTGTGCCCACTGTGCCGCATGCCCTTCGACCC CAAGAAGGTGGACAAGGCCACCCACGTGGAGAAGCAGCTCTCATCCTACAAAGCGCCCTGTCGAGGCTGCAACAA CAAGTTCGTCCCCGTGGTGCCCACATCACAGCCTATCCCCAGCAACATCCCCAACAGGTCCACCTTCGCCTGCCC GTACTGTGGTGCCCGCAACCTGGACCAGCAGGAGCTGGTGAAGCACTGTGTGGAAAGCCACCGCAGCGACCCCAA CCGCGTGGTGTGCCCCATCTGCTCGGCAATGCCCTGGGGGGGACCCCAGCTACAAGAGCGCCAACTTCCTGCAGCA CCTGCTTCACCGACACAAGTTCTCCTACGACACCTTTGTGGACTACAGTATTGACGAGGAGGCCGCCTTCCAGGC CCGCTCCTGTGTCGCACCTGGCACCTGCTCGGGAGTGCACCTCACCGGACTGAGCTCACAGGAGGAGCCTGCACC CGCGCAGAAGGGGAGCCGGGCCGAGCCTCCGGGCCTGAATACGGGCCAGCCGCCGAGGCCGCCAGAGCAGGCCC GCCTGGTCCCACCGGCGTCGCTGGGTTCTTCGGTGCTTCTTGGCCGAGCAGGCGGCCTACTTGGGCAGGCTGGAC GCTGAGACCTGGAGCTGCCACCGTCTCTTCAAGCCATGATACCCCCTCGTGGGAAGAAGGGACCGACGCGCGAGT $\tt CGCGGCTGCGCAGTCGAGCCCGGGAGGAACCCAGGCTGCTGCCCTGGCCAGCCCGACCCTGCCCCGGCCCCACTT$ CCACCTTGCGCATTTGGTACTGGCTTTTGTGATACTTAGGAACCCTGGCATCTTTTCTATATTATCCAGTGTGAT ${\tt AATCTTTCACGTTTTATAGAGCAAAGACAGAGCAGTTACTCTTCATATTGCAATATCTGTGTTTGACTAGGAATATCTGTGTTTGACTAGGAATATCTGTGTTTGACTAGGAATATCTGTGTTTGACTAGGAATATCTGTGTTTGACTAGGAATATCTGTGTTTGACTAGGAATATCTGTGTTTGACTAGGAATATCTGTGTTTGACTAGGAATATCTGTGTTTTGACTAGGAATATCTGTGTTTGACTAGGAATATCTGTGTTTGACTAGGAATATCTGTGTTTTGACTAGGAATATCTGTGTTTGACTAGGAATATCTGTGTTTGACTAGGAATATCTGTGTTTGACTAGGAATATCTGTGTTTGACTAGGAATATCTGTGTTTTGACTAGGAATATCTGTGTTTTGACTAGGAATATCTGTGTTTTGACTAGGAATATCTGTGTTTTGACTAGGAATATCTGTGTTTTGACTAGGAATATCTGTGTTTTGACTAGGAATATCTGTGTTTTGACTAGGAATATCTGTGTTTTGACTAGGAATATCTGTGTTTTGACTAGGAATATCTGTGTTTTGACTAGGAATATCTGTGTTTTGACTAGGAATATCTGTGTTTTGACTAGGAATATCTGTGTTTTGACTAGGAATATCTGTGTTTTGACTAGGAATATCTGTGTTTTGACTAGGAATATCTGTGTTTGACTAGGAATATCTGTGTTTGACTAGGAATATCTGTGTTTGACTAGGAATATGTGAGAATATCTGTGTGTTTGACTAGGAATATGTGAGAATATGTGAGAATATGTGAGAATATGTGAGAATATGTGAGAATATGTGAGAATATGTGAGAATATGTGAGAATATGTGAGAATATGTGAGAATATGTGAATATGTGAGAATATGTGAGAATATGTGAGAATATGTGAGAATATGTGAGAATATGTGAGAATATGTGAGAATATGTGAATATGAATATGTGAATATGA$ AATAGTATTTTTATGGAACATTTACAAAATTATATTTTTTAAGAAAACAATCAAAACAAGCATTGGGGGATTGGG GCAAGGATGGAAGGAGCAGTGGGGCAGCTGCCAGAGCTCAGGCGAGCCATGGGGTCTGCTGTGGGGTCTGCCCTG GCCACCCACTGTGTGTCTGGGTCCTTGAGGTTTGTACGTTTCTCTTTGATGACCAGGAAGAAATCCCAGCACCCC AGCCACAGGCTGTGGCTGCTCCCAGCAGAGGCGGGGCCCGGCAGAGAAGGGGCCTCCTCCACCCAGAGTCCTGGCC TGCTGTCTTTTTTTAAAAAAAAAAGTTTAAATAAAATGTCTCAGAGC

 $\label{thm:condition} $$ \operatorname{MAMFRSLVASAQQRQPPAGPAGGDSGLEAQYTCPICLEVYHRPVAIGSCGHTFCGECLQPCLQVPSPLCPLCRLP $$ FDPKKVDKATHVEKQLSSYKAPCRGCNKKVTLAKMRVHISSCLKVQEQMANCPKFVPVVPTSQPIPSNIPNRSTF $$ ACPYCGARNLDQQELVKHCVESHRSDPNRVVCPICSAMPWGDPSYKSANFLQHLLHRHKFSYDTFVDYSIDEEAA $$ FQAALALSLSEN $$$

CTCCGACGTCATCGGGGCGCGCCCTCGCGCTGTCGCCGCCACAGTCTGCGACGGGACCCGGCGTGCCCATGTGTC AGGTGGGCGAGGACTACGGGGAGCCGGCGCCTGAGGAGCCGCCCCCGGCGCCCCAGGGACTGTTTCAAGG CCTTCTACGTCCACAAGTTCAGAGCCATGCTGGGCAAGAACCGGCTCATCTTTCCAGGCGAGAAGGTGCTCTTGG CGTGGTCTGGGGGGCCTTCGTCCAGCTCCATGGTCTGGCAGGTTCTTGAGGGCCTGAGCCAAGATTCTGCCAAAA AGACCCTGGCCGAAGTGAAGCCCATTCTGCAAGCAACTGGGTTCCCATGGCATGTGGTGGCCTTAGAGGAGGTGT TCAGCCTGCCACCGTCGGTGCTTTGGTGCTCTGCCCAGGAGCTAGTGGGATCCGAGGGGGCCTACAAGGCGGCCG TGGACAGCTTCCTCCAGCAGCAGCATGTGCTGGGGGCCGGGGGTGGTCCTGGCCCGACTCAAGGGGAGCAACAGC TGGCCCGAGCCCACGCTACTCCAAGGTCATGACTGGGGACAGCTGCACACGCTTGGCTATCAAGCTCATGACCA TCACACCAGCCGTCGACACCAAGGCCCCTGAAAAGGCCAGCATCCACCGGCTGATGGAGGCCTTCATCCTCAGGC TGCAGACCCAGTTCCCCTCCACTGTCAGCACTGTGTACAGGACAAGTGAGAAGCTGGTGAAGGGCCCCCGGGATG GCCCTGCTGCTGGCGACTCCGGCCCCCGCTGCCTCTCTGCATGTGTGCCCTGGACGTCGACGCCGCTGACAGTG ACCCCCAAGCCTGCATTGAGGAGCAGCTGTGCTACAGCTGCCGCGTGAACATGAAGGACTTGCCCTCACTGGACC CCCTGCCGCCGTACATCCTGGCTGAGGCCCAGCTCCGCACACAGAGGGCCTGGGGCCTTGCAGGAGATCCGGGACT GGCCACCTGGTACACCACACTGGAGCCGGAAGGCAAGGACGGGGGACTGGCCTCTGATTGTCCATTTGTATAAAT AAAACATTTTTTAATT

CGCGCACTCCGCCGCCATGGAGCAGCGCCGCGTCACCGACTTCTTCGCGCCCCGCCCCCCGGGCCCCCCGCAT CGCGGCGCCCAAGCTGGCCTGCCGCACCCCAGCCCGGCCAGGCCCGCACTCCGCGCCCCGGCCTCCGCTACCAG TGGCAGCCGCAAGCGCCCGCCCGCCCGCCCCCCGGACGCGACCAGGCCAGGACACCGGCCCGCAGGAGACAC GCGGCTGTCGGTGGACGAGGTTTCCAGCCCCAGTACCCCCGAGGCCCCAGACATCCCAGCCTGCCCTTCTCCGGG CCAGAAGATAAAGAAATCCACCCGGCAGCAGGTCAGCCGCCCCACCTGACATCCGCGCAGGACCAGGACACCAT CTCTGAGCTTGCGTCATGCCTGCAACGGGCCCGGGAGCTGGGGGCCAAGAGTCCGGGCGCTGAAGGCCAGTGCCCA CCAGCGCTTCCATGCCCTGGCCCAGCCCGGCCTGCCGGGACTCGTGCTGCCCTACAAGTACCAGGTGCTGGCGGA GATGTTCCGCAGCATGGACACCATCGTGGGCATGCTCCACAACCGCTCCGAGACGCCCACCTTTGCCAAGGTCCA GCGGGGCGTCCAGGACATGATGCGTAGGCGTTTTGAGGAGTGCAATGTTGGCCAGATCAAAACCGTGTACCCGGC CTCCTACCGCTTCCGCCAGGAGCGCAGTGTCCCCACCTTCAAGGATGGCACCAGGAGGTCAGATTACCAGCTCAC CATCGAGCCACTGCTGGAGCAGGAGGCTGACGGAGCAGCCCCCCAGCTCACGGCCTCGCGCCTCCTGCAGCGACG GCAGATCTTCAGCCAGAAGCTGGTGGAGCATGTCAAGGAGCACCACAAGGCCTTCCTGGCCTCCCTGAGCCCCGC CATGGTGGTGCCGGAGGACCAGCTGACCCGCTGGCACCCGCGCTTCAACGTGGATGAAGTACCCGACATCGAGCC GGCCGCGCTGCCCAGCCACCCGCCACGGAGAAGCTCACCACTGCTCAGGAGGTGCTGGCCCGGGCCCGCAACCT GATTTCACCCAGGATGGAGAAGGCCTTGAGTCAATTGGCCCTGCGCTCTGCTGCGCCCCAGCAGCCCCGGGTCTCC CAGGCCAGCACTGCCGGCTACCCCACCAGCCACCCCGCCTGCAGCCTCTCCCAGTGCTCTGAAGGGGGTGTCCCA GGATCTGCTGGAGCGGATCCGAGCCAAGGAGGCACAGAAGCAGCTGGCACAGATGACGCGGTGCCCGGAGCAGGA GCAGCGGCTGCAGCGCTTAGAACGGCTGCCTGAGCTGGCCCGCGTGCTGCGGAGCGTCTTTGTGTCCGAACGCAA GCCTGCGCTCAGCATGGAGGTGGCCTGTGCCAGGATGGTGGGCAGCTGTTGTACTATCATGAGCCCTGGGGAAAT GGAGAAGCACCTGCTGCTCCTCCCGAGCTGCTGCCGGACTGGCTCAGCCTCCACCGCATCCGCACCGACACCTA CGTCAAGCTGGACAAGGCCGCGGACCTCGCCCACATCACTGCACGCCTGGCCCACCAGACACGTGCTGAGGAGGG GCTGTGAGCCTGGGGGCCACTGTGGACAGACGTGGGCTTCAGAAGCTCGCTGGCCTGGGCCCACCAGCATTTTCT TTTATGAACATGATACACTTTGGCCTTCCTTTCCCCAGCGCCCCTGAGGGCCAGAGGCAGATGTGGGCTGCAGGC TGCACAGCCCGAGGGTCTCTGGCTGCGGGCGGTGGGCCCCTTCATGGGGCTCACCTGGTGGATTCACATTAAACC GGTTTCTGTGGGC

50,09/6881 FIGURE 4623

MFRSMDTIVGMLHNRSETPTFAKVQRGVQDMMRRRFEECNVGQIKTVYPASYRFRQERSVPTFKDGTRRSDYQLT IEPLLEQEADGAAPQLTASRLLQRRQIFSQKLVEHVKEHHKAFLASLSPAMVVPEDQLTRWHPRFNVDEVPDIEP AALPQPPATEKLTTAQEVLARARNLISPRMEKALSQLALRSAAPSSPGSPRPALPATPPATPPAASPSALKGVSQ DLLERIRAKEAQKQLAQMTRCPEQEQRLQRLERLPELARVLRSVFVSERKPALSMEVACARMVGSCCTIMSPGEM EKHLLLSELLPDWLSLHRIRTDTYVKLDKAADLAHITARLAHQTRAEEGL

AGCCCGGGGCAGCCAGCAGTACCGGGCCCTGACCGTGCCCGAGCTCACCCAGCAGATGTTCGATGCCAAGAACAT
GATGGCGCCGCATGTCCATGAAGGAGGTGGACGAGCAGATGCTGGCCATCCAGAGCAAGAACAGCAGCTACTTCG
TGGAGTGGATCCCCAACAACGTGAAGGTGGCCGTGTGTGACATCCCGCCCCGCGGCCTCAAGATGTCCTCCACCT
TCATCGGGAACAGCACGGCCATCCAGGAGCTGTTCAAGCGCATCTCCGAGCAGTTCACGGCCATGTTCCGGCGCA
AGGCCTTCCTGCACTGGTACACGGGCGAGGGCATGGACGAGATGACGAGGTCACCGAGGCCGAGAGCAACATGAACG
ACCTGGTGTCCGAGTACCAGCAGTACCAGGACGCCCACGGCCGAGGAAGAGAGGGCAGATGTACGAAGACGACGAG
AGGAGTCGGAGGCCCAAGTGAAGCTGCTCGCAGCTGGAGTGAGAGGCAGGTGGCGGCCGGAA
GCCAGCAGTGTCTAAACCCCCGGAGCCATCTTGCTGCCGACACCCTGCTTTCCCCTCGCCCTAGGGCTCCCTTGC
CGCCCTCCTGCAGTATTTATGGCC

MAVQGSQRRLLGSLNSTPTAIPQLGLAANQTGARCLEVSISDGLFLSLGLVSLVENALVVATIAKNRNLHSPMYC FICCLALSDLLVSGSNVLETAVILLLEAGALVARAAVLQQLDNVIDVITCSSMLSSLCFLGAIAVDRYISIFYAL RYHSIVTLPRARRAVAAIWVASVVFSTLFIAYYDHVAVLLCLVVFFLAMLVLMAVLYVHMLARACQHAQGIARLH KRQRPVHQGFGLKGAVTLTILLGIFFLCWGPFFLHLTLIVLCPEHPTCGCIFKNFNLFLALIICNAIIDPLIYAF HSQELRRTLKEVLTCSCSQDRALVSWDVKSLGGSVCQELLPQQPQEKGLCDQKASSTALQRLLQKEFWEVISDEH GIDPSGNYVGDSDLQLERISVYYNEASSHKYVPRAILVDLEPGTMDSVRSGAFGHLFRPDNFIFGQSGAGNNWAK GHYTEGAELVDSVLDVVRKECENCDCLQGFQLTHSLGGGTGSGMGTLLISKVREEYPDRIMNTFSVVPSPKVSDT VVEPYNATLSIHQLVENTDETYCIDNEALYDICFRTLKLATPTYGDLNHLVSATMSGVTTSLRFPGQLNADLRKL AVNMVPFPRLHFFMPGFAPLTARGSQQYRALTVPELTQQMFDAKNMMAACDPRHGRYLTVATVFRGRMSMKEVDE QMLAIQSKNSSYFVEWIPNNVKVAVCDIPPRGLKMSSTFIGNSTAIQELFKRISEQFTAMFRRKAFLHWYTGEGM DEMEFTEAESNMNDLVSEYQQYQDATAEEEGEMYEDDEEESEAQGPK

GCAGCACCATGAACTAAGCAGGACACCTGGAGGGGAAGAACTGTGGGGGACCTGGAGGCCTCCAACGACTCCTTCC TGCTTCCTGGACAGGACT<u>ATG</u>GCTGTGCAGGGATCCCAGAGAAGACTTCTGGGCTCCCTCAACTCCACCCCACA GCCATCCCCCAGCTGGGGCTGGCTGCCAACCAGACAGGAGCCCGGTGCCTGGAGGTGTCCATCTCTGACGGGCTC TTCCTCAGCCTGGGGCTGGTGAGCTTGGTGGAGAACGCGCTGGTGGTGGCCACCATCGCCAAGAACCGGAACCTG CACTCACCCATGTACTGCTTCATCTGCTGCCTGGCCTTGTCGGACCTGCTGGTGAGCGGGAGCAACGTGCTGGAG ACGGCCGTCATCCTCCTGCTGGAGGCCGGTGCACTGGTGGCCCGGGCTGCGGTGCTGCAGCAGCTGGACAATGTC ATTGACGTGATCACCTGCAGCTCCATGCTGTCCAGCCTCTGCTTCCTGGGCCCCATCGCCGTGGACCGCTACATC TCCATCTTCTACGCACTGCGCTACCACAGCATCGTGACCCTGCCGCGGGCGCGCAAGCCGTTGCGGCCATCTGG GTGGCCAGTGTCGTCTTCAGCACGCTCTTCATCGCCTACTACGACCACGTGGCCGTCCTGCTGTGCCTCGTGGTC TTCTTCCTGGCTATGCTGGTGCTCATGGCCGTGCTGTACGTCCACATGCTGGCCCGGGCCTGCCAGCACGCCCAG GGCATCGCCCGGCTCCACAAGAGGCAGCGCCCGGTCCACCAGGGCTTTGGCCTTAAAGGCGCTGTCACCCTCACC ATCCTGCTGGGCATTTTCTTCCTCTGCTGGGGCCCCTTCTTCCTGCATCTCACACTCATCGTCCTCTGCCCCGAG CACCCCACGTGCGGCTGCATCTTCAAGAACTTCAACCTCTTTCTCGCCCTCATCATCTGCAATGCCATCATCGAC CCCCTCATCTACGCCTTCCACAGCCAGGAGCTCCGCAGGACGCTCAAGGAGGTGCTGACATGCTCCTGG<u>TGA</u>GCG GCAGTTCCTTACCTCCCTGGTCCCCGTTTGTCAAAGAGGATGGACTAAATGATCTCTGAAAGTGTTGAAG

MAVQGSQRRLLGSLNSTPTAIPQLGLAANQTGARCLEVSISDGLFLSLGLVSLVENALVVATIAKNRNLHSPMYC FICCLALSDLLVSGSNVLETAVILLLEAGALVARAAVLQQLDNVIDVITCSSMLSSLCFLGAIAVDRYISIFYAL RYHSIVTLPRARQAVAAIWVASVVFSTLFIAYYDHVAVLLCLVVFFLAMLVLMAVLYVHMLARACQHAQGIARLH KRQRPVHQGFGLKGAVTLTILLGIFFLCWGPFFLHLTLIVLCPEHPTCGCIFKNFNLFLALIICNAIIDPLIYAF HSQELRRTLKEVLTCSW

GCATAGGCTAGGTAGCGAGGCCGCGTGTGAATCGGCCGAGGCCGAGTTTCTGCGCTTCCTCTCTCCAG ${\tt ACGTCGTGGTCGTTCGGTCCT} \underline{{\tt ATG}} {\tt TCGCGCCGGGCCCTCCGGAGGCTGAGGGGGGAACAGCGCGGCCAGGAGCCCC}$ CTCGGGCCCGGCGCCTTGCATTTCGATCTCCGTGATGACGATGACGCGGAAGAAGAAGAAGGGCCCAAGCGGGAGCTT GGTGTCCGGCGTCCCGGGGGCGCAGGGAAGGAGGGCGTCCGAGTCAACAACCGCTTCGAGCTGATAAACATTGAC GATCTTGAGGATGACCCTGTGGTGAACGGGGAGAGGTCTGGCTGTGCGCTCACAGACGCTGTGGCACCAGGGAAC AAAGGAAGGGTCAGCGTGGAAACACAGAGAGCAAGACGGATGGAGATGACACCGAGACAGTGCCCTCAGAGCAG GAAAACGGACTAGAAGATATCGATCGCATCCTAGAGAGGATTGAGGACAGCACTGGGTTGAACCGTCCCGGCCCA GCTCCCCTGAGCTCCAGGAAGCACGTTCTCTACGTGGAGCACAGACACTTGAATCCAGACACAGAACTGAAAAGG TATTTTGGTGCCCGGGCAATCCTGGGGGAGCAAAGGCCACGGCAGAGACAACGTGTGTACCCCAAGTGCACATGG CTGACCACCCTAAAAGCACCTGGCCCCGCTACAGCAAACCAGGTCTGTCCATGCGGCTGCTGGAATCAAAAAAA GGCCTCTCCTTCTTTGCGTTTGAGCACAGTGAGGAGTACCAGCAGGCTCAGCACAAGTTCCTGGTGGCCGTGGAG GCGTTCCACCCCTGTTCAGTCTCACCAGTGGGGCCTGCCGGCTGGATTACCGCAGACCCGAGAACAGGAGCTTC TACCTGGCCCTCTACAAGCAGATGAGCTTCCTGGAGAAGCGAGGCTGCCCGCGCACGGCGCTGGAGTACTGCAAG CTCATCCTGAGTCTCGAGCCGGATGAGGACCCCCTCTGCATGCTGCTCGTCATCGACCACCTGGCCTTGCGGGCC CGGAACTACGAGTACCTGATCCGCCTCTTCCAGGAGTGGGAGGCTCATCGGAACCTGTCCCAGCTCCCTAATTTT AGGCAGAAGGCCTCTCTCCTGATACAGCAGGCGCTCACCATGTTCCCTGGAGTCCTCCTGCCCCTGCTCGAGTCT GCCCTGAGCCAGCTGGTGAACCTGTACCTTGGGAGGTCACACTTTCTCTGGAAAGAGCCCGCCACCATGAGCTGG CTGGAGGAGACGTCCACGAGGTTCTGCAAGCAGTGGACGCCGGGGACCCAGCCGTGGAAGCCTGTGAGAACCGG CGGAAGGTGCTCTACCAGCGTGCACCCAGGAATATCCACCGCCATGTGATCCTCTCTGAGATCAAGGAAGCCGTC GCTGCCCTGCCCCGGACGTGACCACGCAGTCTGTGATGGGGTTTGATCCTCTGCCTCCTTCGGACACAATCTAC TCCTACGTCAGGCCAGAGAGGCTAAGTCCTATCAGCCATGGAAACACCATTGCTCTCTTCTTCCGGTCACTGTTG AGGCTGATGCTGGCGGGCGACATGATGGCCAACTTCCACCTCAACGACCTGGAGGCGCCGCACGAGGACGAC TCTGTTGGTCGGAGTCGGCCAGTTGCCTGAAGTAGGGAAGCTGAGTGTCTCCCCTGGTCCACTGTTTCTCCT ATAAATGTAAATGGGTC

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VNGERSGCALTDAVAPGNKGRGQRGNTESKTDGDDTETVPSEQSHASGKLRKKKKKQKNKKSSTGEASENGLEDI
DRILERIEDSTGLNRPGPAPLSSRKHVLYVEHRHLNPDTELKRYFGARAILGEQRPRQRQRVYPKCTWLTTPKST
WPRYSKPGLSMRLLESKKGLSFFAFEHSEEYQQAQHKFLVAVESMEPNNIVVLLQTSPYHVDSLLQLSDACRFQE
DQEMARDLVERALYSMECAFHPLFSLTSGACRLDYRRPENRSFYLALYKQMSFLEKRGCPRTALEYCKLILSLEP
DEDPLCMLLLIDHLALRARNYEYLIRLFQEWEAHRNLSQLPNFAFSVPLAYFLLSQQTDLPECEQSSARQKASLL
IQQALTMFPGVLLPLLESCSVRPDASVSSHRFFGPNAEISQPPALSQLVNLYLGRSHFLWKEPATMSWLEENVHE
VLQAVDAGDPAVEACENRRKVLYQRAPRNIHRHVILSEIKEAVAALPPDVTTQSVMGFDPLPPSDTIYSYVRPER
LSPISHGNTIALFFRSLLPNYTMEGERPEEGVAGGLNRNQGLNRLMLAVRDMMANFHLNDLEAPHEDDAEGEGEW

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ATGCTGACGCACGCCGCTGGCGCGAGGACCTTTTGTGAGGAGCAAAAGAAGGGATCCACCTATTCAGTTCCAAAA AGCCTCCACCGGGGGCCGGGACAGCCAAGCACCCGCCGGCAGCTTCGCTGGAAGAAACCTGATGTAAAG CAAAAGTCCAGCAGGAAGAAAGTGGTCGTTCCACAGATCATCATCACGCGAGCGTCGAATGAGACGCTAGTCAGT TGCAGTTCCAGCGGGAGTGACCAGCAGAGAACCATTCGGGAGCCGGAGGACTGGGGCCCCTACCGGCGCACAGG AACCCCAGTACAGCAGACGCCTATAATTCACATCTCAAAGAA<u>TAA</u>ACAAGCACCTTTGCATGGCACTCGCTACTC CCTGCGATAGGCGTCTCGGGAACAGCCGCCTCACCCTGTGAGAAGCCGAGGCCCCTTCTCCAGTGCTCTCGGGGA GGTTGCACCAGGCCCACCCTGTGAGAAACTGCAGCCCCTTCTCCAGTGCTTTCGGGGAGGGTGCACCAG TGCAGCCCCTTCTCCAATGCTCTCGGGGAGGGTACACCAGGGTTGCCCCACCCTGTGAGAAGCCACCGCCCCCT TCTCCAGTGCTCTCGGGGAGGGTGCACCAGGGCTGCCCCACGCTGTAAGAAGCCGCCGCCCCTTCTCCAGTGCT CTCCAGCCCGCCCCACCCTGTGAGAAGCCATGGCCCCTTCTCCAGTGCTTTTGGGGAGGGTGCACCAGGGCCACC GAAGCCGTGGCCCCTTCTCCCGTGCTCTCAGGGAGGGTGCACCAGGCCTGCCCCCGCCTTGAGAAACTGCAGCC CCCTTCTCCAGTGCTCTGGGGGAGGGTGCACCAGGCCTGCCCACCCTGTGAGAAACTGCACCCCTTCTCCAGTG CTCTCGGGGAGGGTGCACCAGGCCCGCCCCACCCTGTGAGAAGCCGCAGCCCGTTCTCCATTGCCATTTGGTCCT TTGTGATTTGTGGTGCACAGTTAAAACACTTCCCTTCGTTTCAGAAGGAGACAATGTGAATACTTGGAAATTATA GTGAATAAGATGCCTCCCAAACTTGAGGAAAAGGTCAGATTCTAAGAGCTAAACGTTAAGATGTAATGTTCCAGA ACAAAGAGGCCCAGAGTCACTGAACGGGGCCCCAGGGCTCCTAGCTTGAGTGTAATCTGAGTCAGCTTATGAAAA GGCCCCAAAGAAGAAGTGGAATGTGTGCTGGGCACATGGGACAGCCATGGCACTGAGACTTTGGAAGTGGCCTT GCCAGCGCTGTCCTGTCTTTCTGGCCCACAGATGAGGGCTCCTGATTGTGGAAGGCCACGGAAGGGACCTGAACA CGATGGCACGAGACAAGTTATCTCCTGTGACTGCTCCTCCAGCAACCCTCAGCTCAGGCTAGACTTTCCCCCT GTGTTGAGAATGCCCTGCCCTGTGTGGAAGCCTGATGCATTTAGTGACAGTGTGTTAGCTTTGTTAGTTTCTAGT GTCTTGGACACAGACTTCTGAGGTGGCAGCGGGAGGGAGCCTGCTCCCTGCCACACACGTACAATTTCTAATCCA TACAGGCCTATGTAGTATATACACACATACGCAGAGCCTTAGGAATTGTGAAAGGCCAATCAAAACTTGGGGCCC TAATTTCACTCTGCC

MVTHAAGARTFCEEQKKGSTYSVPKSKEKLMEKHSQEARQADRESEKPVDSLHPGAGTAKHPPPAASLEEKPDVK QKSSRKKVVVPQIIITRASNETLVSCSSSGSDQQRTIREPEDWGPYRRHRNPSTADAYNSHLKE

GCGGAGAAGGCTCCAAGGCGGAGCAGGCCAAAGTGAAGAAGGCCCTTCTGCAGAAAAATGTAGAGTGTGCCCGT GTGTATGCCGAGAACGCCATCCGCAAGAAGAACGAAGGTGTGAACTGGCTTCGGATGGCGTCCCGCGTAGACGCA GTGGCCTCCAAGGTGCAGACAGCTGTGACTATGAAGGGGGTGACCAAGAATATGGCCCAGGTGACCAAAGCCCTG GACAAGGCCCTGAGCACCATGGACCTGCAGAAGGTCTCCTCAGTGATGGACAGGTTCGAGCAGCAGGTGCAGAAC CTGGACGTCCATACATCGGTGATGGAGGACTCCATGAGCTCGCCCACCCTGACCACGCCGCAGGAGCAGGTG GCCTCTGCCGTGGGCGAGAGCTCTGTGCGCAGCCAGGAGGACCAGCTGTCACGGAGGTTGGCCGCCTTGAGGAAC TAGCCGTGCCCCGCGGTGTGCACCGCCTCTGCCCCGTGATGTGCTGGAAGGCTCCTGTCCTCTCCCCACCGCGT CTTGCCTTTGTGCTGACCCCGCGGGGCTGCGGCCGGCAGCCACTCTGCGTCTCTCACCTGCCAGGCCTGCGTGGC CTTAGGGTTGTTCCTGTTCTTTTAGGTTGGGCGGTGGGTCTGTGTCCTGGTGTTGAGTTTCTGCAAATTTCTGGG GGTGATTTCTGTGACTCTGGGCCCACAGCGGGGAGGCCAAGAGGGGCCCTGTGGACTTTCACCCAGCACTGTGGG GGCCTTCAGACTCTGGGGCAGCAGACATGCTGCTTCCCATCAGCCAGAGGGGGGTCAGGGCTGCCCTGTTGCCAAA GCACCACAGGTCTATGTGTGCTGGGGGATGTCAGGTGCCACCCAACGCTGTCCTGGTGGTATTTACAATGACATC CCCTCACTTCCCTCAGTTCCCAAAGCTGCCCAGTCCATGGGGACAGAACCGTCACTCAGATCCACATTCAAGTGT GCCCACCCTGCAGTCTTCATCCTCACTCAGCTGCTGCCTCTGGAGGTGCCTTTGGCCACATGTGCTGTTTT GTCTCCTCGACAGGGAGCCTGTCCACCAGCAGGCTGCGGTCCCAGCGGGTGCGTCTGCAGCTCCTCCCCTTGGGC AGCCTGGTTCTCCCGGAGGACCTTTCCTTGGGGCCCTGCTTCATGACGATGCTGCCTGTGTCACCCTCTACCATC TGTAAACAACTGGGTGCCTTCCCCGACCACCCCCAATGCCTTCCCAGCTTGGAAGCCAAGGCAGCTGATGAAGG GAGCTCAGGAGAGCCGTCTTCAGCTGGGCTGGGGTTGGGGCTGTGAGGAAAACCTGCCATTGTGGCCCTGGA GAGTCACCAGCAGCTCTTGGGAAGGACTTGCTGGGAGGCTGAGAGAGGCTTTGGGCACAGCCTGCTGTCTTTTCC ATTTCCTAAAGTTTACTTCATTGTCTTGAGGCTTCCAGGTTTTGTTTTTTGTCTTTTTGCCAAAGTAGAAAAGGCAGG TGGTGGGCGGCTGGCAGGGAGTGCGGGTCCCCGCCCCTCTTCAGTCCTGCCCTCCTCAGTCCTGCCCACC ${\tt CCGTGCAGCCCATGCTGAGGCTGCAGTGGTGTCGTGGGTGTTACGTGCAGGAACGTGGAGACCCTGACGTGGGCT}$ TCCCTCCAGCCTCCCCAAAATCAACCCTGGTGTTGAGAGAACGTCCTTCTGTCCATCGTGGGTAACAGCCTTGGG GAGGGTGCAGAGCTCTGCAGAGCCATGGGCCAGGTGGGGCTGCCTCAGTCCTGTCCCCTTGGGCACTGAGGAGAG

MAPSRNGMVLKPHFHKDWQRRVATWFNQPARKIRRRKARQAKARRIAPRPASGPIRPIVRCPTVRYHTKVRAGRG FSLEELRVAGIHKKVARTIGISVDPRRNKSTESLQANVQRLKEYRSKLILFPRKPSAPKKGDSSAEELKLATQL TGPVMPVRNVYKKEKARVITEEEKNFKAFASLRMARANARLFGIRAKRAKEAAEQDVEKKK

 $\tt CTGGGTCCTGGCCTTTGGGCATCATCCAGCGCCATCGGCCTTCAGCCAACGCGGGAGTGGATGGGCCCC$ TTCTTCTTCGCAGACAGCGTTCGGCCGCTGCCCGGGCTCTAGGCGCGGCCGGACGGCCCAGTCTGGAGGGTTCGG GGCGGAGGCCCGGGGGGGGTCCGCCCCGGGGTCCGGCCTCTCACTCGCTCCCCTCTCGTCCGCAGCCGCAGGG CCGTAGGCAGCC<u>ATG</u>GCGCCCAGCCGGAATGGCATGGTCTTGAAGCCCCACTTCCACAAGGACTGGCAGCGGCGC GTGGCCACGTGGTTCAACCAGCCGGCCCGTAAGATCCGCAGACGTAAGGCCCGGCAAGCCCAAGCCGCCCCCCATC GCCCGGGCCCCGGTCGGGTCCCATCCGGCCCATCGTGCGCTGCCCCACGGTTCGGTACCACACACGAAGGTGCGC GCCGGCCGCGCTTCAGCCTGGAGGAGCTCAGGGTGGCCGGCATTCACAAGAAGGTGGCCCGGACCATCGGCATT TCTGTGGATCCGAGGAGGAGGACAAGTCCACGGAGTCCCTGCAGGCCAACGTGCAGCGGCTGAAGGAGTACCGC TCCAAACTCATCCTCTTCCCCAGGAAGCCCTCGGCCCCCAAGAAGGGGAGACAGTTCTGCTGAAGAACTGAAACTG GCCACCCAGCTGACCGGACCGGTCATGCCCGTCCGGAACGTCTATAAGAAGGAGAAAGCTCGAGTCATCACTGAG GAAGAAGAATTTCAAAGCCTTCGCTAGTCTCCGTATGGCCCGTGCCAACGCCCGGCTCTTCGGCATACGGGCA AAAAGAGCCAAGGAAGCCGCAGAACAGGATGTTGAAAAGAAAAAATAAAGCCCTCCTGGGGACTTGGAATCAGTC GGCAGTCATGCTGGGTCTCCACGTGGTGTTTCGTGGGAACACTGGGCCTGGGATGGGGCTTCACTGCTGTGA CTTCCTCCTGCCAGGGGATTTGGGGGCTTTCTTGAAAGACAGTCCAAGCCCTGGATAATGCTTTACTTTTCTGTGTT GAAGCACTGTTGGTTGTTTGGTTAGTGACTGTAAAACGGTTTTCTTGTGGGGAGGTTACAGAGGCTGACTTC AGAGTGGACTTGTGTTTTTTCTTTTTAAAGAGGCAAGGTTGGGCTGGTGCTCACAGCTGTAATCCCAGCACTTTG AGGTTGGCTGGGAGTTCAAGACCAGCCTGGCCAACATGTCAGAACTACTAAAAATAAAGAATCAGCCATGAAAA ΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑ

MAPSRNGMVLKPHFHKDWQRRVATWFNQPARKIRRRKARQAKARRIAPRPASGPIRPIVRCPTVRYHTKVRAGRG FSLEELRVAGIHKKVARTIGISVDPRRRNKSTESLQANVQRLKEYRSKLILFPRKPSAPKKGDSSAEELKLATQL TGPVMPVRNVYKKEKARVITEEEKNFKAFASLRMARANARLFGIRAKRAKEAAEQDVEKKK

CCATCGTATCCTGTCAGACACGTCGGACGAGGAGGACGCGAGTGTCACCGTGGGGACAGGAGAAGCTGAGACT AGTGAAAAAGAAGCGAAAGAAACAAAAGGCAGAGAGGTTCGCTTCGGAAAGCGGAGCGACAAGTTCTGCTC CTCGGAGTCGGAGAGCGAGTCCTCAGAGAGTGGGGAGGATGACAGGGACTCTCTGGGGAGCTCTGGCTGCCTCAA GGGGTCCCCGCTGGTGCTGAAGGACCCCTCCCTGTTCAGCTCCCTCTCTGCCTCCTCCACCTCGTCTCACGGGAG CTCTGCCGCCCAGAAGCAGAACCCCAGCCACACAGACCAGCACCCAGCGCGGACAGACAATTGGAAAAC CATTTCTTCCCCGGCTTGGTCAGAGGTCAGTTCTTTATCAGACTCCACAAGGACGAGACTGACAAGCGAGTCTGA CTACTCCTCTGAGGGCTCCAGTGTGGAATCGCTGAAGCCAGTGAGGAAGAGGCAGGAGCACAGGAAGCGTCCTC $\verb|CCTGTCGGAGAAGAAGAGCCCCTTCCTGTCCAGCGCGGAGGGCGCTGTCCCCAAACTGGACAAGGAGGGGAAAGT| \\$ TGTCAAAAACATAAAACAAAACACAAAACACAAAAAACAAGGAGAGGGACAGTGTTCCATCAGCCAAGAGCTGAA GTTGAAAAGTTTTACTTACGAATATGAGGACTCCAAGCAGAAGTCAGATAAGGCTATACTGTTAGAGAATGATCT TTCCACTGAAAACAAGCTAAAAGTGTTAAAGCACGATCGCGACCACTTTAAAAAAAGAAGAAGAAACTTAGCAAAAT GAAATTAGAAGAAAAGAATGGCTCTTTAAAGATGAAAAATCACTGAAGAGAATCAAAGACAAAACAAAGACAT CAGCAGGTCTTTCCGAGAAGAAAGACCGTTCGAATAAAGCAGAAAAGGAGAGAGTCGCTGAAGGAAAAGTCTCC GAAGAATGATTTAAAAGAGGACAAAATTTCAAAAGAGAAGGAGAAGATTTTTAAAGAAGATAAAGAAAACTCAA AAAAGAAAAGGTTTATAGGGAAGATTCTGCTTTTGACGAATATTGTAACAAAAATCAGTTTCTGGAGAATGAAGA CACCAAATTTAGCCTTTCTGACGATCAGCGAGATCGGTGGTTTTCTGACTTGTCCGATTCATCCTTTGATTTCAA ${\tt AGGGGAGGACAGCTGGCCAGTGACAGACTACAGGGACATGAAGAGCGACTCTGTGGCCAAGCTCATCTT}$ GGAGACGGTGAAGGAGGACAGCAAGGAGGAGGGGGGGACAGCCGGGCCCGGGAGAAGCGAGACTACAGAGAGCC CTTCTTCCGAAAGAAGAAGACAGGGACTATTTGGATAAAAACTCTGAGAAGAGGAAAGAGCAGACTGAAAAGCATAA AAGTGTCCCTGGCTACCTTTCGGAAAAGGACAAGAAGAGGAGAGGTCCGCAGAGGCCCGGGCGGACAGAAAGGA GTGTGGCTGCGAGAGTGGCTTCAAGGACAAGTCCGACGGCGACTTTGGGAAGGGCCTGGAGCCGTGGGAACGGCA GTCTCTCGACCAAGGGAAAGAAGAAGAAGGAAAGGCTTTCCCTGGGATCATCTCAGAAGACTTCTCTGAAAAAAA AGATGACAAGAAAGGCAAAGAGAAAAGCTGGTACATCGCAGACATCTTCACAGATGAGAGTGAGGACGACAGAGA CAGCTGCATGGGGAGCGGGTTCAAGATGGGAGAGGCCAGCGACTTGCCGAGGACGGCCGCCTCCAGGAGAAGGA GGAAGGACGGGAGGCCTATGCCTCCGACAGACACAGGAAGTCTTCTGACAAGCAGCACCCTGAGAGGCAGAAGGA CACGCAAGATAAGAAAAATAAACAGAAGCTCCCCGAGAAGGCTGAAAAGAAGCACGCTGCCGAAGACAAGGCTAA AAGCAAACACAAAGAAGTCGGACAAAGAACATTCCAAGGAGGAAGTCCTCGAGAAGTGCCGACGCGGAAAA AAGCCTGCTTGAAAAGTTGGAAGAAGAGGCTCTCCATGAGTACAGAGAAGACTCCAACGATAAAATCAGCGAGGT $\tt CTCCTCTGACAGCTTCACGGACCGAGGGCAGGAGCCGGGGCTGACTGCCTTCCTGGAGGTCTCTTTCACGGAGCC$ ACCTGGAGACGACAAGCCGAGGGAGAGCCCCTGCCTCCCTGAGAAGCTGAAAGAAGAAGGAGAGGCACAGACACTC AGATTACAAGGAGGGCGGTAGCAGGAAGGACTCCGGCCAGTACGAAAAGGACTTCCTGGAGGCGGATGCTTACGG AGTTTCTTACAACATGAAAGCTGACATAGAAGATGAGCTAGATAAAACCATTGAATTGTTTTCTACCGAAAAGAA AGATAAAAATGATTCCGAGAGAGAACCTTCCAAG

PCT/US2003/028547

5024/6881 FIGURE 4638

ACTTGCGCTGTCACTCAGCCTGGACGCGCTTCTTCGGGTCGCGGGTGCACTCCGGCCCGGCTCCGGCCC $\texttt{CG} \underline{\textbf{ATG}} \texttt{GACGCCGCGTTCCTCGTCCTCGGGCTGTTGGCCCAGAGCCTCTGCCTGTCTTTGGGGGGTTCCTGGAT}$ GGAGGAGGCCCACCACCCTGTACCCCTGGCGCCGGGCGCCTGCCCTGAGCCGCGTGCGGAGGGCCTGGGTCATCC CCCCGATCAGCGTATCCGAGAACCACAAGCGTCTCCCCTACCCCTGGTTCAGATCAAGTCGGACAAGCAGCAGC ${\tt TGGGCAGCGTCATCTACAGCATCCAGGGACCCGGCGTGGATGAGGAGCCCCGGGGGCGTCTTCTCTATCGACAAGT}$ TCACAGGGAAGGTCTTCCTCAATGCCATGCTGGACCGCGAGAAGACTGATCGCTTCAGGCTAAGAGCGTTTGCCC $\tt TGGACCTGGGAGGATCCACCCTGGAGGACCCCACGGACCTGGAGATTGTAGTTGTGGATCAGAATGACAACCGGC$ CAGCCTTCCTGCAGGAGGCGTTCACTGGCCGCGTGCTGGAGGGTGCAGTCCCAGGCACCTATGTGACCAGGGCAG AGGCCACAGATGCCGACGACCCCGAGACGGACAACGCAGCGCTGCGGTTCTCCATCCTGCAGCAGGGCAGCCCCG AGCTCTTCAGCATCGACGAGCTCACAGGAGAGATCCGCACAGTGCAAGTGGGGCTGGACCGCGAGGTGGTCGCGG ${\tt TGTACAATCTGACCCTGCAGGTGGCGGACATGTCTGGAGACGGCCTCACAGCCACTGCCTCAGCCATCATCACCC}$ TTGATGACATCAATGACAATGCCCCCGAGTTCACCAGGGATGAGTTCTTCATGGAGGCCATAGAGGCCGTCAGCG GAGTGGATGTGGGACGCCTGGAAGTGGAGGACAGGGACCTGCCAGGCTCCCCAAACTGGGTGGCCAGGTTCACCA TCCTGGAAGGCGACCCCGATGGGCAGTTCACCATCCGCACGGACCCCAAGACCAACGAGGGTGTTCTGTCCATTG TGAAGGCCCTGGACTATGAGAGCTGTGAACACTACGAACTCAAAGTGTCGGTGCAGAATGAGGCCCCGCTGCAGG CGGCTGCCCTTAGGGCTGAGCGGGGCCAAGGTCCGCGTGCATGTGCAGGACACCAACGAGCCCCCGTGT ${\tt TCCAGGAGAACCCACTTCGGACCAGCCTAGCAGAGGGGGCACCCCAGGCACTCTGGTGGCCACCTTCTCTGCCC}$ GGGACCCTGACACAGAGCAGCTGCAGAGGCTCAGCTACTCCAAGGACTACGACCCGGAAGACTGGCTGCAAGTGG ACGCAGCCACTGGCCGGATCCAGACCCAGCACGTGCTCAGCCCGGCGTCCCCCTTCCTCAAGGGCGGCTGGTACA GAGCCATCGTCCTGGCCCAGGATGACGCCTCCCAGCCCCGCACCGCCACCGGCACCCTGTCCATCGAGATCCTGG AGGTGAACGACCATGCACCTGTGCTGGCCCCGCCGCCGCCGGCAGCCTGTGCAGCGAGCCACACCAAGGCCCAG GCCTCCTCCTGGGCGCCACGGATGAGGACCTGCCCCCCACGGGGCCCCCTTCCACTTCCAGCTGAGCCCCAGGC TCCCAGAGCTCGGCCGGAACTGGAGCCTCAGCCAGGTCAACGTGAGCCACGCGCGCCCTGCGGCCGCGACACCAGG TCCCCGAAGGCCTGCACCGCCTCAGCCTGCTCCTGCTCGGGACTCGGGGCAGCCGCCCCAGCAGCAGCAGCCTC ${\tt CGACAGCGCTGAGCCTCTGGGACCGCCGCCACTTCGCAGAGATGCCCCGCAGGGCCGCCTGCACCCCCAGC}$ CACCCCGAGTGCTGCCCACCAGCCCCTGGACATCGCCGACTTCATCAATGATGGCTTGGAGGCTGCAGATAGTG ACCCCAGTGTGCCGCCTTACGACACCCCTCATCTATGACTACGAGGGTGACGGCTCGGTGGCGGGGACGCTGA GCTCCATCCTGTCCAGGCCAGGGCGATGAGGACCAGGACTACCAGAGACTGGGGGCCCCGCTTCGCCC TTTCTCCTGGGGCACTGCTACCCAGACACAGAGGCCGGACAGCCTGACCCTGGGGCCCAACTGGACATGCCACTC AGCCTCCTTCCTGTAGGCGAGGGCCCAAGTCTGGGGGCAGAACCTGAGTGTGGATGGGGCGGCCAGGAAGAGGCC CCTTCCTGCCGGGGTGGGAAGAGTTTCTCTCCATCGGCCCCATGCGGGTCACCTCCCTAGTCCCACCTTTGCCTC ТТТСАТССАЛАЛАЛАЛАЛАЛАЛАЛА

MDAAFLLVLGLLAQSLCLSLGVPGWRRPTTLYPWRRAPALSRVRRAWVIPPISVSENHKRLPYPLVQIKSDKQQL
GSVIYSIQGPGVDEEPRGVFSIDKFTGKVFLNAMLDREKTDRFRLRAFALDLGGSTLEDPTDLEIVVVDQNDNRP
AFLQEAFTGRVLEGAVPGTYVTRAEATDADDPETDNAALRFSILQQGSPELFSIDELTGEIRTVQVGLDREVVAV
YNLTLQVADMSGDGLTATASAIITLDDINDNAPEFTRDEFFMEAIEAVSGVDVGRLEVEDRDLPGSPNWVARFTI
LEGDPDGQFTIRTDPKTNEGVLSIVKALDYESCEHYELKVSVQNEAPLQAAALRAERGQAKVRVHVQDTNEPPVF
QENPLRTSLAEGAPPGTLVATFSARDPDTEQLQRLSYSKDYDPEDWLQVDAATGRIQTQHVLSPASPFLKGGWYR
AIVLAQDDASQPRTATGTLSIEILEVNDHAPVLAPPPPGSLCSEPHQGPGLLLGATDEDLPPHGAPFHFQLSPRL
PELGRNWSLSQVNVSHARLRPRHQVPEGLHRLSLLLRDSGQPPQQREQPLNVTVCRCGKDGVCLPGAAALLAGGT
GLSLGALVIVLASALLLLVLVLVLLVALRARFWKQSRGKGLLHGPQDDLRDNVLNYDEQGGGEEDQDAYDISQLRHP
TALSLPLGPPPLRRDAPQGRLHPQPPRVLPTSPLDIADFINDGLEAADSDPSVPPYDTALIYDYEGDGSVAGTLS
SILSSQGDEDQDYDYLRDWGPRFARLADMYGHPCGLEYGARWDHQAREGLSPGALLPRHRGRTA

TGGGAGGTTGGGGTCTCTGGGAGCTCTGCAGGCCCCAGCACCCGCAGAGCAGACACTGCGATGACAACGGACGAC ACAGAAGTGCCCGCTATGACTCTAGCACCGGGCCACGCCGCTCTGGAAACTCAAACGCTGAGCGCTGAGACCTCT TCTAGGGCCTCAACCCCAGCCGGCCCCATTCCAGAAGCAGAGACCAGGGGAGCCAAGAGAATTTCCCCTGCAAGA GAGACCAGGAGTTTCACAAAAACATCTCCCAACTTCATGGTGCTGATCGCCACCTCCGTGGAGACATCAGCCGCC AGTGGCAGCCCGAGGGAGCTGGAATGACCACAGTTCAGACCATCACAGGCAGTGATCCCGAGGAAGCCATCTTT GACACCCTTTGCACCGATGACAGCTCTGAAGAGGCAAAGACACTCACAATGGACATATTGACATTGGCTCACACC TCCACAGAAGCTAAGGGCCTGTCCTCAGAGAGCAGTGCCTCTTCCGACGGCCCCCATCCAGTCATCACCCCGTCA CGGGCCTCAGAGAGCAGCGCCTCTTCCGACGGCCCCCATCCAGTCATCACCCCGTCACGGGCCTCAGAGAGCAGC GCCTCTTCCGACGGCCCCCATCCAGTCATCACCCCGTCATGGTCCCCGGGATCTGATGTCACTCTCCTCGCTGAA GCCCTGGTGACTGTCACAAACATCGAGGTTATTAATTGCAGCATCACAGAAATAGAAACAACAACTTCCAGCATC CCTGGGGCCTCAGACATAGATCTCATCCCCACGGAAGGGGTGAAGGCCTCGTCCACCTCCGATCCACCACGCTCTG CCTGACTCCACTGAAGCAAAACCACACATCACTGAGGTCACAGCCTCTGCCGAGACCCTGTCCTCAGCCCTCTCT GTTGAGACACCAAGTTACGTCAAAGTCTCAGGAGCAGCTCCGGTCTCCATAGAGGCTGGGTCAGCAGTGGGCAAA ACAACTTCCTTTGCTGGGAGCTCTGCTTCCTCCTACAGCCCCTCGGAAGCCGCCCTCAAGAACTTCACCCCTTCA ACTACAACCAACAGCAGCCGAGGGACCAACACCTTAGCCAAGATCACAACCTCAGCGAAGACCACGATGAAG CCCCCAACAGCCACGCCCACGACTGCCCGGATCGAGGCCGACCACAGACGTGAGTGCAGGTGAAAATGGAGGTTT $\verb|CCTCCTCCTGCGGCTGAGTGTGGCTTCCCCGGAAGACCTCACTGACCCCAGAGTGGCAGAAAGGCTGATGCAGCA|\\$ GCTCCACCGGGAACTCCACGCCCCACGCGCCTCACTTCCAGGTCTCCTTACTGCGTGTCAGGAGAGGGCTAACGGAC ATCAGCTGCAGCCAGGCATGTCCCGTATGCCAAAAGAGGGTGCTGCCCCTAGCCTGGGCCCCCACCGACAGACTG CAGCTGCGTTACTGTGCTGAGAGGTACCCAGAAGGTTCCCATGAAGGGCAGCATGTCCAAGCCCCTAACCCCAGA CCTTGGACTCACCTTGGCACATGTTCTGTGTTTCAGTAAAGAGAGACCTGATCACCCATCTGTGTGCTTCCATCC TGCATTAAAATTCACTCAGTGTGGCCCAG

CAGAGGCTGGGAGGCGGCAGAATGCAGCCAGAGGAGGGCACAGGCTGCTGCTGGAGCTGCTGCAGGTGCAG CTGCAACAGTACTTCCTGCGGCTCCGAGATGACCTCAACGTCACCCGCCTGTCCCACTTTGAGTACGTCAAGAAT GAGGACCTGGAGAAGATCGGCATGGGTCGGCCTGGCCAGCGGCGGCTGTGGGAGGCTGTGAAGAGGAGGAAGGCC GGGGTGGTGCTCACGCCGCCCATGAAGATGGTGACAGAGCTGGCACCTCTGGGATCGTTGTTGGACCGGCTACGT AAGCACCAGGGCCACTTCCTCCTGGGGACTCTGAGCCGCTACGCTGTGCAGGTGGCTGAGGGCATGGGCTACCTG GAGTCCAAGCGCTTTATTCACCGTGACCTGGCTGCCCGCAATCTGCTGTTGGCTACCCGCGACCTGGTCAAGATC GGGGACTTTGGGCTGATGCGAGCACTACCTCAGAATGACGACCATTACGTCATGCAGGAACATCGCAAGGTGCCC TTCGCCTGGTGTGCCCCCGAGAGCCTGAAGACACGCACCTTCTCCCATGCCAGCGACACCTGGATGTTCGGGGTG ACACTGTGGGAAATGTTCACCTACGGCCAGGAGCCCTGGATCGGCCTCAACGGCAGTCAGATCCTGCATAAGATC GACAAGGAGGGGGAGCGGCTGCCCCGGCCCGAGGACTGTCCCCAGGACATCTACAACGTCATGGTCCAGTGCTGG GCTCACAAGCCAGAGGACAGACCCACGTTTGTGGCCCTGCGGGACTTCCTGCTGGAGGCCCAGGCCCACAGACATG GACAGTGACCCCCGCCACTGCTGGGGCTTCCCGGACAGGATTGACGAACTGTATCTGGGAAACCCCATGGACCCC GACCCTGTGAGCGAGGACCAAGACCCCTTGTCCAGCGACTTCAAGAGGCTGGGCCTGCGGAAGCCAGGCCTGCCC CGAGGGCTGTGGCTGGCGAAGCCCTCGGCGCGGGTGCCGGGCACCAAGGCCAGCCGAGGCAGCGGGGCTGAGGTC ATGGACGCCTGCTCCCTGCTGGACGAGACCCCGCCTCAGAGCCCCACGCGGGCACTGCCCCGGCCCCTGCACCCC GGGGGCAAGCCGCCAGCTCCGCACAGACCGCAGAGATCTTCCAGGCGCTACAGCAGGAGTGCATGAGGCAACTG CAGGCTCCGGCCGGCCCCCTCTCCCAGCCCGGGGGGTGACGACAAGCCCCAGGTGCCTCCTCGGGTA TGGCCTGGACCTGCTTCCCCTCCCGGGTGCCTCCGCGGGAGCCCCTGTCCCCTCAAGGCTCGAGGACACCCAGC CCCCTGGTACCACCTGGCAGCTCCCCGCTGCCACCCGGCTCTCAAGCTCACCTGGGAAGACCATGCCCACCACC CAGAGCTTTGCCTCAGACCCCAAGTACGCCACCCCCAGGTGATCCAGGCCCCTGGCCCGCGGGCTGGTCCCTGC TCCTACCTGGAGCTGCTACCAGCGCTTCCTGCGTGAGTGCCAGAGCCCCGATGAGCCTACC

GCGGAGCGAGAGGCTGAGAGAGTCGGAGACACTATCCGCTTCCATCCGTCGCGCAGACCCTGCCGGAGCCGCTGC CGCT<u>ATG</u>GATGATCGAGAGGATCTGGTGTACCAGGCGAAGCTGGCCGAGCAGGCTGAGCGATACGACGAAATGGT AGGAGAAGACAAGCTAAAAATGATTCGGGAATATCGGCAAATGGTTGAGACTGAGCTAAAGTTAATCTGTTGTGA CATTCTGGATGTACTGGACAAACACCTCATTCCAGCAGCTAACACTGGCGAGTCCAAGGTTTTCTATTATAAAAT AGTGGCTTATAAAGCTGCTAGTGATATTGCAATGACAGAACTTCCACCAACGCATCCTATTCGCTTAGGTCTTGC TCTCAATTTTTCCGTATTCTACTACGAAATTCTTAATTCCCCTGACCGTGCCTGCAGGTTGGCAAAAGCAGCTTT TGATGATGCAATTGCAGAACTGGATACGCTGAGTGAAGAAAGCTAŤAAGGACTCTACACTTATCATGCAGTTGTT ACGTGATAATCTGACACTATGGACTTCAGACATGCAGGGTGACGGTGAAGAGCAGAATAAAGAAGCGCTGCAGGA ${\tt CGTGGAAGACGAAAATCAG{\tt TGA}}{\tt GACATAAGCCAACAAGAGAAAACCATCTCTGACCACCCCTCCTCCCCATCCCA$ CCCTTTGGAAACTCCCCATTGTCACTGAGAACCACCAAATCTGACTTTTACATTTGGTCTCAGAATTTAGGTTCC TGCCCTGTTGGTTTTTTTTTTTTTTTTTTTAAACAGTTTTCAAAAGTTCTTAAAGGCAAGAGTGAATTTCTGTG GATTTTACTGGTCCCAGCTTTTAGGTTCTTTAAGACACTAACAGGACTACATAGAGGCTTTTTCAGCATTACTGT GTCGTCTCCGTGCCAGATGTGGCAAGATCACCATTAGCAAATGGAAATTACATTTGAAAGCCATTAGACTTATAG GTGATGCAAGCATCTAAGAGAGGGTTAATCACACTATAGAGGCATAAGTGGTATCAGTTTTCATTTTCTAATT GTTTAAACTGTGTTTTATACCAGTGTTTGCAAGTAATTGGGTGTTAGCTTGAGATGGTTAAAGGTGGTTTGGGGA GGGACTTCGTTGTAATGGTTTTGCTGTAAAAAATGTTTCCAACTCCGCTGAAATGTTGCTGAAAAGCATGGTGCT GGTAACAGTTCAACAATCCGTGGCTGCTCATTCTTGCCTACTTTACTCTCCCACTGAAGCAGGTTAGCGTTGAAG GTGGTATGGAAAAGCCTGCATGCCTGTTCAATTCTTTTGTTTCTTCTCCTCCCCCTCCCCCTACCTCCTTCCCC TCACTCCTCCCTCCTCGCTCGCTCAACCTCTTTTGTTCAGTATGTGTAACTTGAAGCTAATTTGTACTACTGG ATATCTGACTGGAGCCACAGATACAGAATCTGTATTGTTCTTACTGAAACACAGCATGGAATTAACATTAAACTT

WO 2004/030615 PCT/US2003/028547

5029/6881 FIGURE 4643

MDDREDLVYQAKLAEQAERYDEMVESMKKVAGMDVELTVEERNLLSVAYKNVIGARRASWRIISSIEQKEENKGG EDKLKMIREYRQMVETELKLICCDILDVLDKHLIPAANTGESKVFYYKMKGDYHRYLAEFATGNDRKEAAENSLV AYKAASDIAMTELPPTHPIRLGLALNFSVFYYEILNSPDRACRLAKAAFDDAIAELDTLSEESYKDSTLIMQLLR DNLTLWTSDMQGDGEEQNKEALQDVEDENQ

5030/6881 FIGURE 4644A

 ${\tt TCGGGTTTCGGATCTGACCGAGCCGCCGCGCGGGATGGAGCCGCTCAGCCACCGGGGCCTGCCGCGCCTGTCCT}$ GGCCCCCGGAGGGCTCAGAGACCATGCCGTACATCGATGAGTCGCCCACCATGTCCCCGCAGCTCAGCGCCCGCA TGGAGATGAGGAAGCTGGTTCTCTCGGGGTTCTTGGCCAGCGAAGAGATCTACATTAACCAGCTGGAAGCCCTGT TGCTGCCCATGAAACCCCTGAAGGCCACCGCCACCACCTCCCAGCCCGTGCTCACCATCCAGCAGATCGAGACCA TCTTCTACAAGATCCAGGACATCTATGAGATCCACAAGGAGTTCTATGACAACCTGTGCCCCAAGGTGCAACAGT ATAACTATAAAGTCGCTCTGGAGACAGCTGAGAAGTGCAGCCAGTCCAACAACCAGTTCCAGAAGATCTCAGAGG AACTCAAAGTGAAAGGTCCCAAGGACTCCAAGGACAGCCACGTCTGTCACCATGGAAGCTCTGCTCTACAAGC CCATTGACCGGGTCACTCGGAGCACCCTAGTCCTACACGACCTGCTGAAGCACACCTGTGGACCACCCCGACT ACCCGCTGCTGCAGGATGCCCTCCGCATCTCCCAGAACTTCCTGTCCAGCATCAACGAGGACATCGACCCCCGCC GGACTGCAGTGACAACGCCCAAGGGGGAGACGCGACAGCTGGTGAAGGACGGCTTCCTGGTGGAAGTGTCAGAGG CCTCCCGGAAGCTGCGCACGTCTTCCTCTTTACAGATGTCCTACTGTGTGCCAAGCTGAAGAAGACCTCTGCAG GGAAGCACCAGCAGTATGACTGTAAGTGGTACATCCCCCTGGCCGACCTGGTGTTTCCATCCCCCGAGGAATCTG AGGCCAGCCCCAGGTGCACCCCTTCCCAGACCATGAGCTGGAGGACATGAAGATGAAGATCTCTGCCCTCAAGA GTGAAATCCAGAAGGAGAAAGCCAACAAAGGCCAGAGCCGGGCCATCGAGCGCCTGAAGAAGAAGATGTTTGAGA ATGAGTTCCTGCTGCTCCAACTCCCCCACAATCCCGTTCAGGATCCACAATCGGAATGGAAAGAGTTACCTGT TCCTACTGTCCTCGGACTACGAGAGGTCAGAGTGGAGAAGCAATTCAGAAACTACAGAAGAAGGATCTCCAGG CCTTTGTCCTGAGCTCAGTGGAGCTCCAGGTGCTCACAGGATCCTGTTTCAAGCTTAGGACTGTACACAACATTC AGGGATTTAAGCAATCAGCCAACCTGTACTGTACCCTGGAGGTGGATTCCTTCGGCTATTTTGTCAGCAAAGCCA AAACCAGGGTGTTCCGGGACACAGCGGAGCCCAAGTGGGGATGAGGAGTTTGAGATCGAGCTGGAGGGCTCCCAGT AGATCATGGGCAAAGGACAGATCCAGCTGGACCCACAAACCGTGGAGACCAAGAACTGGCACACGGACGTGATTG AGATGAACGGGATCAAAGTGGAATTTTCCATGAAATTCACCAGCCGAGATATGAGCCTGAAGAGGACCCCGTCCA AAAAGCAGACCGGCGTCTTCGGTGTGAAGATCAGCGTGGTGACGAAGCGGGAGCGCTCCAAGGTGCCCTACATCG ${\tt TCCGGCAGTGTGGAGAGGGGGGAGAGAGGGGGTATCGAGGAGGTTGGCATCTACAGGATATCGGGCGTGGCCA}$ CGGACATCCAGGCCGCTCAAGGCCGTCTTCGATGCCAATAACAAGGACATCCTGCTGATGCTGAGTGACATGGACA TCAACGCCATCGCCGGGACGCTCAAGCTGTACTTCCGGGAACTGCCCGAGCCGCTCCTCACGGACCGACTCTACC CAGCCTTCATGGAGGGCATCGCCCTGTCAGACCCTGCTGCCAAGGAAAACTGCATGATGCACCTGCTCCGCTCCC TGCCCGACCCCAACCTCATCACCTTCCTCTTCCTGCTGGAACACTTGAAAAGGGTTGCCGAGAAGGAGCCCATCA ACAAAATGTCACTTCACAACCTGGCTACCGTGTTTGGACCCACGTTACTGAGACCCTCAGAAGTGGAGAGCAAAG CACACCTCACCTCGGCTGCGGACATCTGGTCCCATGACGTCATGGCGCAGGTCCAGGTCCTCCTCTACTACCTGC AGCACCCCCCATTTCCTTCGCAGAACTCAAGCGGAACACACTGTACTTCTCCACCGACGTGTAGCCCGAGGCAG GGTGGCTGCGGGCGGGTGGTGGAACCAGCCCCTCCAGCCTGGGGTCCAACTCAGACTTGAAAGACTGCAATAGAA AACTCCCAAACCCAGCACTCCAGACTCGAGGGAAGCCAGCTTCCAAGAACTGGAATGCGTACGTCTTTTGTGCCA CCTTGTACAAAGCCGGCTGCCCAGCCCCAGCCTCACCACCGCATCCCACCTCCTGCCCTCCATACCTCTAGTTGT GTCTGATGCTCCGTGCTGTTCGGGAATTGTTTTATGTACACTTGTCAGGCAGAAAAGGTAGTGACCGGCCCGGCG TTTTATTTTGCGCTGTGAACTGCTGCCAGCTTCTCTTGGCCCTGCTCCCAGATGGCGGTCTCCTGGCAGCCTCC CCTTGAAAGCTCTGAAGAGGCCCTGGGTTGCCGCGGCAGCAGTGGTCTGTTTGATGCTGCCGTTTGCCGCTGCCG GCCCCTCCTCAGACTCCGCCTTTGGGAGCACACCTGCTTTGCCTTGCTGCCAAATGTTGGACAAGCAGAC ${\tt ACACTCACACTCGTCCCCAGCTTAGCACAGAGCTGGAGCGCCCATTTCTGGAATTTTCCGTTTGGGAATCTCCAC}$ TTCTGGGGTTTACCTGTTCGGCCTCCTGCCTATCAGTGAGGCATCTCTGACTGTTTCTTCTACTGCTTTTCAGTT CCCTTCCCTGCTGTTCTATTTCCTTTGAGTGTAAAGACTCACAGGTGACCTGCTATCGAGATAGCCAGAGGGTCA

5031/6881 FIGURE 4644B

GGAGAGAATGGGGGAGGAGGCGGTCAGGCTGCTGAGGAAACACCACAGGCTGAACGGGGGAGGAATGCACATGCC TGGGTAAACACTGGGAACTCCAGAAGTTGTGGGGAGAGTGGGGAATCAGACAGCCGCCTCTAGGGGCTGGGTTCT GCTGGGGCCTCCTTGTTGGTGCTGTAGGCACCCGCCAGGGAGCAGGGACCCGACTTGCAGACGCATTGCCCGGTA CTAGGAAGGAGTGAGTTTTCCCACCGTACACTTCCCACACGAGCTGCGGCTGCCAGCCTCGGGCCATCAGCC TAGGAGAGCAGATGCAGCTCCAGGGGCTCGACTTATAGCCAGTTACAGCTCCCCGGCTCTTCTGTGGGCAGAGC GTCGTTTCCGGGCCCTCAGGGCTGGGGAGCTCAGTTCCCATTGCTTGTGCTCAGGGCTGAGTCTTAAAGAAGGGT TTGCCGGCCCTAACGCTGCAGCGCGTGCGCGGAGAGAGGCCCTTTTTGAGCCTGTTTACTCCTGTGGCCTTGGGC AGCAGCTTAGCAAGGAGCCCTTGCTCCCTGGGAAAGGCGGTGAACTTGAGTCTAAAGATGCAGTGCCTGGCCCTT AGGAAGGGCAGAGTGAGTCACGGCCCAGACTGGGCACCTTCGCGTCTCAGCCTCAGGGAGCCCCACAGCCCCAA GCTCGCTGAGGCAACGTGAGAACAGGCTATGGGAAGGCTGCAAAGGCTGAGAAATGCAAAGGCTCATATTTATAA ATCCCACCCCAGAGTGGGAGGGTCAGGTGCCAGACCTGGACTAAACTGCACCAAGGAAACACCCAGCAGGGTC TCCTGTGAGCCGGGGACCATGCAGCCCGAAACCTCCAGTCACTGCGCCCGGCAGGAGTCAGGAGCCAGGGACTGT GCAGCCTGGAACCTCCAGTCACTGTGCCCAGCAGGGTGGGCTGTGCCCAGCAGGAGTCAGGCTAAGAAACGCCAG GTCTGCCTGTTCTTGCTGGGCAATGGCTGATGGCTGCCAGTTTCTGCTGATACACAGGTAGGATGGGACCCTTCA ATAAATTGATGTAAACCACGTGAGAGGAAAATGTTAATAAAAAATGCAAAGCCCCATCATTTGCACAAAACTC

GGGACCGAAACCCTTCAGGGAAGTCATTGCAGGGCCCTTGCTTAGAAACAATGGGCAGTCTCTGGAGAGCAGCAG CCTGGAGGGGTCTCACGTGGGCGTCTATTTCTCCGCACATTGGTGTCCGCCCTGCCGAAGCCTCACCCGGGTCCT GGTGGAATCCTACCGGAAGATCAAGGAGGCAGGCCAGAACTTCGAGATCATCTTCGTTAGTGCAGACAGGTCGGA GGAGTCCTTCAAACAGTACTTCAGTGAGATGCCCTGGCTCGCCGTCCCCTACACGGATGAGGCCCGGCGGTCGCG CCTCAACCGGCTGTACGGAATCCAAGGCATCCCCACGCTCATCATGCTGGACCCGCAGGGCGAGGTGATCACGCG GCAGGGGCGGTGGAGGTGCTGAACGACGAGGACTGCCGGGAGTTCCCCTGGCACCCCAAGCCCGTGCTGGAGCT CTCCGACTCCAACGCCGCGCGCGTTAACGAGGCCCCTGCCTCGTCCTTTTTTGTAGATTCTGAGGATGACGGAGA GTCCGAGGCGGCCAAGCAGCTGATTCAGCCGATAGCTGAGAAAATCATTGCCAAGTACAAAGCCAAAGAGGAGGA GGCTGCCCCTTTGCTCACCATCCTGGACATGTCAGCCCGGGCCAAGTACGTGATGGACGTGGAGGAGATCACCCC CGCCATCGTGGAGGCCTTTGTGAATGACTTCCTAGCAGAGAGCTCAAACCGGAGCCCATCTAGCGTGGCTCCGG CCCTGGGGTGTGGAATCAGCAGCGGCAGAGTCCACCGTGTTTGGAGACTCTGTTTGGGAGCACGGGATGGCCGGG GGCCCGGCCAGAGCGGGGCTGCATGGCTTTCGCAAAGTCACTAGCTTTTGGTGAAGGATCTGCCAGGGTGTCCTG GGCAGAGTGAGCGTGGAGGGCCGGTGGGTCCCGCTCGGGCTCTGACTCTGACGTCGGCACACACGGCCCCGGACG GCCAGAGGGGAACCGCCGGGTGACACCTGCGTGGAGGCTGAGCTGAGAAAGGGCCTCCGCTTAGAGCTGCGGGTG AGGACGTCCTTTTCTAAGCAACACGTCTTCCTCGGTCTGAGAGAAAAGCAGCCCACTCTTGTGTTCTCAGGCAG GGGATCTCCAAATGCAAAAGGAAGCTTGTAGAGGTTTTTTGGGTGAGAAAAAATGTAGCTAAGGTAATGGTTC ATATCATACAAACAGCTCCCACGATCCTGAAATTCTGTTAACGAATCCTTCTCTTTTGGACATCTTCCCAAGAAAC TTAGCCCTGAGTCCTAGGAGGAGCACCTCTGCACCAGCACGGACCTCTCGCTCCACCCAGCTCTGTGCCCAAGGC CCCTGATCTCTGCTGAGGTGCCCACACCCACGTTCGATCACCCCTGCCATTCCCTTTTATTTTCTTTTTTTGAG ATGGAGTCTTGCTCTGTCGCCCAGGCTGGAGTGCAGTGGCACCATCTTGGCTCACTTCAACCTCCGCCCCAAGG TTCAAGTGATTCTCCTGCCTCAGCCTCCCGAGTAGCTGGGAT.TACAGGCACCCGCCACCGTACCTGGCTAATTTT TGTATTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCGAACTCCTGACCTCAGGTGATCCACC CGCCTCGGCCTCCCAAAGTGCTGGGATTACAGGCGTGAGCCGCCGTGCCCGGCCCCCTTTTCTTTTCAAAGCAGA ACTACAAAGATGAGAAATTACCAGAAGCCTCGCCTTTTCCTAAGCACCAGCGGAAGGAGCTGTGCCCCGGGATGG CTTACTTGGGCTGACCTGACCCCGAAAGAGAAACAGACACTCTGTTCTCAGGATTGGGGATGGACGGCTTCGG GTCCCCACCCGCTAATGAGCTGTTGACACTGTTGTTCCTTGCTGAATTGGATTGTTGACTTGTAGTTCAGAGGCG TACAACTAGTTGGCGATTAGACTTGTTATGTGATGTTACCAGCCTGAAATGCGATCACCCCGTAGGAAATAAAGC AGGCATCTCTGGACCTC

5033/6881 FIGURE 4646A

TGGCCGTGTGATTGCTCTGTGCCCATTACCCTGTGGCCGTGTGACTGCTGCTGTGCCCATTACCCTGTGGCCGTG TGATTGCTGCTGTGCCCATTACCCTGTGGCCGTGTGATTGCTCTGTGCCCATTATCCTGTGGCCGTGTGATTGCT CTGTGCCCATTACCCTGTGGCCGTGTGATTGCTCTGTGCCCATTACCCTGTGGCCGTGTGATTGCTCTGTGCCCA TTATCCTGTGGCCGTGTGATTGCTCTGTGCCCATTATCCTGTGGCCGTGTGATTGCTCTGTGCCCATTATCCTGT GGCCGTGTGATTGCTCTGTGCCCATTACCCTGTGGCCGTGTGATTGCTGCTGTGCCCATTACCCTGTGGCCGTGT GATTGCTCTGTGCCCATTATCCTGTGGCCGTGTGATTGCTCTGTGCCCATTATCCTGTGGCTGTGATTGCTCT GTGCCCATTATCCTGTAGCCGTGTGATTGCTTCTGTGCCCATTACCCTGTGGCTGTGATTGCTGCTGTGCCCA TTATCCTGTGGCTGTGATTGCTGCTGTGCCCATTACCCTGTGGCTGTGATTGCTCTGTGCCCATTACCCTG TGGCTGTGTGATTGCTCTGTGCCCATTATCCTGTGGCCGTGTGATTGCTGCTGTGCCTGTTACCCTGTGGCTGTG TGATTGCTCTGTGCCCATTACCCTGTGGCTATGCTCCCTTCATCTGTCATGAGAAGCTCAGCTGTCATGTCCTGT GGTACATGCTCAGTGGCCCCTGTAGTTTGTACTGTCCTCCTATTTCTAAACCCCTCTCCCCACATCCTCTGCTGG $\tt CCCAGCCTTTGCTGGAGGGTCTCGCCTCAGCAGCCCAGCTTTTTCTTTTCACACACTTTTCCTGAAGGATCTCAT$ ${\tt TCACCGTCTTGGTTCCGGTGATCCCCTCTGGGCAGATACCTCTCAGAATCACATTTCCCAGCTTACTTCCCTCCT}$ GAACTTCCACCTGGCATTTCCGTTGCTGGAGGACATCTGTACCTTGATGGCCAAAGCTGAACTCATCTTTCCTCA CGGAAGCCATTCTGGATTCCTCGGCCAAGTCCTTCTGACTCCAGCTGTGCAGTGGCTCTTGTAGTCATCCCTTCT CCCCGTCCGCTGATGTCCTTTAAAACCCTTGTCATCTCAAACCATGACAGCCTACTAACAGCAGTGGCCATCTGG AAACATTTTCACTATACTGTCTTATTTGGCTTGTCTGTGTGCAGGACCCTTGAACATCTGTGAAGAAATGACTAT TCTGCATGGAGGCTTCTTGCTGGCCGAGCAGCTGTTCCACCCTAAGGCACTGGCAGAATTAACAAAGTCTGACTG GGAACGTGTTGGACGCCCATCGTGGAGGCCTTAAGGGAGATCTCCTCGGCTGCAGCACACTCCCAGCCCTTTGC CTGGAAGAAGAAGCCCTGATCATCTGGGCCAAGGTTCTGCAGCCGCACCCGTGACCCCGTCCGACACAGA GACACGGTGGCAGGAAGACCTGTTCTTCTCGGTGGGCAACATGATCCCCACCATCAACCACCATCCTCTTCGA GCTGCTCAAATCCCTGGAAGCTTCTGGACTCTTTATCCAGCTCCTGATGGCCCTGCCCACCACCATCTGCCATGC AGAACTAGAGCGCTTTCTGGAACATGTGACCGTTGACACTTCTGCCGAAGACGTGGCCTTCTTCCTGGACGTCTG GTGGGAGGTGATGAAGCACAAGGGTCACCCGCAGGACCCCCTGCTCTCCCAGTTTAGTGCAATGGCCCATAAGTA CCTGCCTGCCTTAGATGAGTTCCCCCATCCTCCAAAGAGGCTTAGGTCAGACCCAGACGCGTGCCCCACCATGCC CCTGTTGGCCATGCTGCTCCGCGGGCTGACACAGATCCAGAGTCGGATCCTGGGCCCGGGGAGGAAGTGCTGTGC GCTGGCCAACCTGGCTGACATGCTGACTGTTTTGCGCTGACAGAGGACGACCCCCAGGAGGTGTCTGCAACCGT GTATCTGGACAAACTGGCCACGGTGATCTCTGTGTGGAACTCGGACACCCAGAATCCCTACCACCAGCAGGCGCT GGCAGAGAGGTGAAGGAGGCAGAACGGGATGTCAGCCTGACCTCGCTGGCCAAACTXCCCCAGTGAGACCATTT TCGTGGGCTGCGAGTTCCTGCACCACCTGCTGCGGGAGTGGGGGGGAGGTTGCAGGCCGTGCTCCGCAGCAGCC ACCGCACCAGCCTGTCCAAGGACAGGCAGGTGGTCTCTGAGCTGGCGGAGTGTGTCAGGGACTTCCTGAGGA AAACGAGCACGGTGCTGAAGAACAGGGCCTTGGAGGATATCACAGCTTCCATTGCCATGGCCGTCATCCAGCAGA AGATGGACCGCCATATGGAAGTGTGCTACATTTTTGCCTCTGAGAAGAAGTGGGCCTTCTCGGACGAGTGGGTAG CCTGCCTGGGGAGTAACAGGGCCCTCTTCCGACAGCCAGACTTGGTGTTGAGGCTGCTGGAAACAGTGATAGACG TCAGCACAGCTGACAGAGCCATCCCTGAGTCTCAGATCCGGCAGGTGATCCACCTGATCCTGGAATGTTACGCAG ACCTCTCCCTGCCAGGTAAAAATAAAGTCCTTGCAGGTATCCTGCGTTCCTGGGGGCGAAAGGGCCTCTCTGAAA AACAGGGCTTGGCAAAAGCTGTGGCCTCCGTGGCCCGCCTGGTCATAGTGCACCCGGAAGTCACGGTGAAGAAAA TAGGTTTGTGGAAGAGCAGGGTCCCAATTCATCTGCCACTTTCATGGTGTCATGCCTCAAAGAAACCGTCTGGAT GAAGTTCTCTACACCCAAGGAAGAAAAGCAATTTTTAGAGCTCCTGAACTGCCTGATGAGTCCCGTGAAACCCCA AGGGATTCCAGTGGCTGCTCTTCTTGAGCCAGACGAGGTGCTGAAGGAATTTGTCCTGCCTTTCTTGAGGTTAGA TGTTGAAGAGGTAGACCTCAGTCTGAGGATCTTCATCCAGACTCTAGAGGCAAACGCGTGCCGAGAGGAATACTG GCTCCAGACCTGCTCCCCGTTTCCACTCCTCTTCAGCTTGTGCCAGCTCTTGGACCGCTTCAGCAAATACTGGCA GATTGTATCAGCCAATGCTGAGACCTTCTCCCCGGATGTCTGGATCAAGTCCCTGTCCTGGCTCCACCGCAAGTT

503476881 FIGURE 4646B

AGAACAGCTAGACTGGACTGTGGGCCTGAGGCTGAAGAGCTTCTTCGAGGGGCACTTCAAGTGTGAAGTGCCAGC ACGGGGCTCCTGGCCTGGATGGAGTGCTGCTGCGTCTCCAGCGGCATCTCGGAGAGGATGCTGTCTCTTTGGTG GTGGACGTGGGCAATCCTGAGGAGGTCAGACTGTTCAGCAAAGGCTTTCTGGTGGCCCTGGTGCAAGTCATGCCT TGGTGCAGCCCTCAGGAGTGGCAGCGCCTTCACCAGCTGACCAGGAGACTGCTGGAGAAGCAGCTCCTCCATGTC $\tt CCTTATAGCCTGGAATATATTCAGTTTGTTCCCCTGCTCAACCTGAAGCCCTTTGCCCAGGAGTTGCAACTCTCC$ GTCCTCTTCCTGAGGACTTTCCAGTTTCTCTGCAGCCATAGCTGTCGTGATTGGCTTCCTCTGGAAGGCTGGAAC CACATCATGGCCATGCTCCACCCGGAGGTCTGTGAGCCACTCTACGTTTTAGCCTTGGAAACCCTCACCTGCTAT GAGACTTTGAGCAAGACCAACCCTTCTGTCAGCTCCTTGCTCCAGAGGGCACACGAGCAGCGCTTCTTAAAGTCC ATTGCTGAGGGCATCGGCCCTGAAGAACGGCGCCAAACCCTGTTGCAGAAGATGAGCAGCTTCTGACTTGGCGTG GGGAGCTGGGCCCCAACATGGCGGGTCTGCAGAAGATCAGCAGCTTCTTACCTGTGCGGGAGCGAAAAAGCTGGG CTTCAACATGGCAGGTCTGTAGGGGTCAGACCCGAGCAGCCTGGACTTTACAGTTATGTGAAACTGTCCACAAAA AGTCATGGCAATAATGGTGTAAAGAAAATAGTTTCTTGGGTATTTGTAACGTACAAACTATCATAAAAATTCTCC TCTTTCGC

GTGTGGCCACGGCCCTCTCGGCCCTCTCGCTGGGAGCGGAGCAGCAACAGAATCCATCATTCACCGGGCTCTCT ACTATGACTTGATCAGCAGCCCAGACATCCATGGTACCTATAAGGAGCTCCTTGACACGGTCACTGCCCCCAGA AGAACCTCAAGAGTGCCTCCCGGATCGTCTTTGAGAAGAAGCTGCGCATAAAATCCAGCTTTGTGGCACCTCTGG AAAAGTCATATGGGACCAGGCCCAGAGTCCTGACGGGCAACCCTCGCTTGGACCTGCAAGAGATCAACAACTGGG TGCAGGCGCAGATGAAAGGGAAGCTCGCCAGGTCCACAAAGGAAATTCCCGATGAGATCAGCATTCTCCTTCTCG GTGTGGCGCACTTCAAGGGGCAGTGGGTAACAAAGTTTGACTCCAGAAAGACTTCCCTCGAGGATTTCTACTTGG ATGAAGAGAGGACCGTGAGGGTCCCCATGATGTCGGACCCTAAGGCTGTTTTACGCTATGGCTTGGATTCAGATC TCAGCTGCAAGATTGCCCAACTGCCCTTGACCGGAAGCATGAGTATCATCTTCTTCCTGCCCCTGAAAGTGACCC AGGCGGTCCTCACTGTCCCCAAGCTGAAGCTGAGTTACGAAGGCGAAGTCACCAAGTCCCTGCAGGAGATGAAGC TGCAATCCTTGTTTGATTCACCAGACTTTAGCAAGATCACAGGCAAACCCATCAAGCTGACTCAGGTGGAACACC $\tt GGGCTGGCTTTGAGTGGAACGAGGGTGGGGCGGGAACCACCCCCAGCCCAGGGCTGCAGCCTGCCCACCTCACCT$ TTGGCAAGATTCTGGACCCCAGGGGCCCCTAATATCCCAGTTTAATATCCCAATACCCTAGAAGAAAAACCCGAGG GACAGCAGATTCCACAGGACACGAAGGCTGCCCCTGTAAGGTTTCAATGCATACAATAAAAGAGCTTTATCCCT

ATGGAAGAGGCTCGGGGCCGCAGCCCCCGGACCGCCCAGCCCCGGTACCTCCTCACCGCAATGGCCC CCTCGCTCAGCTGGCCGACCATGGCTCCACCGCCAAGACTTCCCCGCGGACCCCGCAACAGCTCCAGCTTCCCCA CCCGGACCTGAGG<u>ATG</u>AGCTGTTTCTAAAAAGACTTTCTAAAAGGTTACTTGGTGGGAAAGGACTCGGACGCTCCT CTTTTCTACAGAGAAGAAGAACAAAAATTTCAGGAGAAAGATTACACAGGAGCTGCAGTGCTGTACTCTAAG GGAGTGTCACATTCAAGGCCTAACACTGAGGACATGTCACTGTGTCATGCTAACCGCTCGGCAGCCCTCTTCCAC CTGGGTCAGTATGAGACGTGTCTTAAAGACATTAACAGAGCACAGACACATGGGTATCCAGAAAGGTTGCAACCC AAGATTATGTTACGTAAAGCAGAATGTCTGGTGGCCCTGGGGAGACTGCAGGAGGCAAGCCAGACCATCAGTGAT CTGAAAATGAAGATGCAAGAAAAGGACAGTCTCACAGAAAGCTTCCCAGCAGCTCTGGCCAAAACCCTTGAGGAT GGTCGCTGTCTCGTTGCCACAAAAGATATTCTCCCAGGAGAGCTCCTGGTGCAGGAGGATGCTTTTGTGAGTGTT CTCAACCCAGGAGAACTGCCACCACCGCATCACGGCCTAGACAGCAAATGGGACACCAGAGTCACCAATGGGGAC CTCTATTGTCACCGATGTTTGAAGCACACTTTGGCCACAGTTCCGTGTGACGGATGCAGTTATGCCAAGTATTGC AGCCAGGAGTGTTTGCAGCAGGCCTGGGAGCTCTACCACAGGACAGAATGTCCTCTGGGAGGGCTGCTTCTCACA CTGGGTGTCTTTTGCCACATTGCCCTGAGGTTGACTCTTTTGGTGGGATTTGAGGATGTTCGCAAAATCATAACG AAGCTTTGTGATAAGATTAGTAACAAGGACATCTGTTTACCTGAAAGCAACAATCAGGTCAAGACACTTAATTAT GGCCTAGGGGAGAGTGAGAAAAATGGCAACATCGTTGAGACCCCAATTCCTGGATGCGATATTAATGGGAAGTAT GAAAATAATTATAATGCTGTCTTCAACCTTTTGCCCCACACTGAAAACCATAGCCCAGAGCACAAATTCCTCTGT GCTCTCTGTGTTTCTGCACTGTGCAGACAGCTAGAAGCAGCCAGTTTACAGGCCATCCCAACTGAGAGGATTGTG AACTCCTCTCAGCTTAAAGCAGCAGTGACACCTGAATTGTGTCCTGACGTGACTATTTGGGGAGTGGCGATGCTG CTGTCGGGGTGCCAGCGTGACGCCGAGAGCTTCCTGTGGGCAGAGCACGCCGTGGTGGGAGAGATCGCGGATGGC CTGGCCCGGGCCTGTGCTGCCTTAGGAGACTGGCAAAAGTCAGCCACCCATCTACAGAGGAGTCTCTACGTGGTG GAGGTTCGCCACGGGCCGTCCAGTGTTGAAATGGGCCATGAGCTCTTCAAATTGGCCCAGATCTTTTTCAACGGG TTTGCAGTACCCGAAGCCCTGAGCACAATACAGAAAGCTGAGGAGGTTCTGTCGCTGCACTGTGGCCCATGGGAC TAG

MSLCHANRSAALFHLGQYETCLKDINRAQTHGYPERLQPKIMLRKAECLVALGRLQEASQTISDLERNFTATPAL ADVLPQTLQRNLHRLKMKMQEKDSLTESFPAALAKTLEDAALREENEQLSNASSSIGLCVDPLKGRCLVATKDIL PGELLVQEDAFVSVLNPGELPPPHHGLDSKWDTRVTNGDLYCHRCLKHTLATVPCDGCSYAKYCSQECLQQAWEL YHRTECPLGGLLLTLGVFCHIALRLTLLVGFEDVRKIITKLCDKISNKDICLRESNNQVKTLNYGLGEMLKWAMS SSNWPRSFSTGLQYPKP

AGAGTAGTTATCTTGATGGAAXTTAGAAGTTTTGAAGTCAGCTGAAGCAGTTGGAGTGAAGATTGGCAATCCAGT ${\tt GGCCCCAGXCCGCXAXGAATGGAAGCTCGGGAATGGGTTCTACTGTTTCTAAGGCTTATGGTGCTTCAAAGACAT}$ TTGGAAAAGCTGCAXGGTCCCAGCCTGTCACACACTTCTGGGGGAACAXCAGTCCAAAGTGGTGCCCATTGCCAG CCTCACTCCTTACCAGTCCAAGTGGACCATTTGTGCTCGTGTTACCAACAAAAGTCAGATCCGTACCTGGAGCAA CTCCCGAGGGGAAGGGAAGCTTTTCTCCCTAGAACTGGTTGACGAAAGTGGTGAAATCCGAGCTACAGCTTTCAA TGAGCAAGTGGACAAGTTCTTTCCTCTTATTGAAGTGAACAAGGTGTATTATTTCTCGAAAGGCACCCTGAAGAT TGCTAACAAGCAGTTCACAGCTGTTAAAAATGACTACGAGATGACCTTCAATAACGAGACTTCCGTCATGCCCTG TGAGGACGACCATCATTTACCTACGGTTCAGTTTGATTTCACGGGGATTGATGACCTCGAGAACAAGTCGAAAGA CTCACTTGTAGACATCATCGGGATCTGCAAGAGCTATGAAGACGCCACTAAAATCACAGTGAGGTCTAACAACAG AGAAGTTGCCAAGAGGAATATCTACTTGATGGACACATCCGGGAAGGTGGTGACTGCTACACTGTGGGGGGAAGA TGCTGATAAATTTGATGGTTCTAGACAGCCCGTGTTGGCTATCAAAGGAGCCCGAGTCTCXTGATTTCGGTGGAC GGAGCCTCTCCGTGCTGTCTTCAAGCAXCTATCATTGCGAATCCTGACATCCCAGAGGCCTATAAGCTTCGTGGA TGGTTTGACGCAGAAGGACAAGCCTTAGATGGTGTTTCCATCTCTGATCTAAAGAGCGGCGGAGTCGGAGGAGT AACACCAACTGGAAAACCTTGTATGAGGTCAAATCCGAGAACCTGGGCCAAGGCGACAAGCCGGACTACTTTAGT TCTGTGGCCACAGTGGTGTATCTTCGCAAAGAGAACTGCATGTACCAAGCCTGCCCGACTCAGGACTGCAATAAG AAAGTGATTGATCAACAGAATGGATTGTACCGCTGTGAGAAGTGCGACACCGAATTTCCCAATTTCAAGTACCGC ATGATCCTGTCAGTAAATATTGCAGATTTTCAAGAGAATCAGTGGGTGACTTGTTTCCAGGAGTCTGCTGAAGCT ATCCTTGGACAAAATGCTGCTTATCTTGGGGAATTAAAAGACAAGAATGAACAGGCATTTGAAGAAGTTTTCCAG AATGCCAACTTCCGATCTTTCATATTCAGAGTCAGGGTCAAAGTGGAGACCTACAACGACGAGTCTCGAATTAAG GCCACTGTGATGGACGTGAAGCCCGTGGACTACAGAGAGTATGGCCGAAGGCTGGTCATGAGCATCAGGAGAAGT GCATTGATGTGAGAGGAGCAGTGCCAATCGGGCAGAAGTTTGCAAATAGGCAGAATGGAATCGATTTCCTCCCAC GGAGTCAGCCAGTGGCTAGCGCAAGACCAGTCACTCCCTCTGCCTTCAGGCTTCTGTCAATTTCATTATCATCAA GCAGGAATTATGTCGTAAGTCACTGACCCTAACTGCAGACCATGAAGTAAATTATGTAACTAGGTTTTTGCTTCT TGAGCACCTGGGGATTTTAGTAAGTGTGTCTTCCTA

PCT/US2003/028547

5039/6881 FIGURE 4651

GATGGCTGCTGTTGCTGAGACACGTTGGTCGTCATTGCCTCCGAGCCCACTTTAGCCCTCAGCTCTGTATCAG AAATTGGTCTCTTCCCATGGCGATGTCCATCTGCCACCGTGGCACTGGTATTGCTTTGAGTGCAGGGGTCTCTCT TTTTGGCATGTTGGCCGTGTTACTCCCTGGGAACTTTGAGTCTTATTTGGAACTTGTGAAGTCCCTGTGTCTGGG GCCAGCACTGATCCACACAGCTAAGTTTGCACTCGTCTTCCCTCTCATGTATCATACCTGGAATGGGATCCGACA CTTGATGTGGGACCTAGGAAAAGGCCTGAAGATTCCCCAGCTATACCAGTCTGGAGTGGTTGTCCTGGTTCTTAC TGTGTTGTCCTCTATGGGGCTGGCAGCCATGTGAAGAAGGAGGCTCCCAGCATCATCTTCCTACACATTATTAC ATTCACCCATCTTTCTGTTTTGTCATTCTTCAGCCTGGGAAAAGTTCTCCTTATTTGTTTAGATCCTTTTTG TATTTTCAGATCTCCTTGGAGCAGTAGAGTACCTGGTAGACCTTAATAGTGGAAAAGGGTCTAGTTTTCCCCTTG TTTCTAAAGATGAGGTGGCTGXCAAAAACTCCCCTTTTTTGCCCACAGCTTGCCTACTCTCGGCCTAGAAGCAGT TATTCTCTCCCATATTGGGCTTTGATTTGTGCTGAGGGTCAGCTTTTGGCTCCTTCTTCCTGAGACAGTGGAAA CAATGCCAGCTCTXGTGGCTTCTXGCCCTGGGGACGGGCCGGGTGGGGGGGGGTGGGTTGGTGAGGCTTTGGGTGCCA CTACCTGTGGGTTGCTGGCTTAAAGGACAATTCTCTTCATTGGTGXAGAGCCCAGGCCATTAACACCTACACAGT GTTATTGAAAGAGAGGTGGGGGTGGAGGGGAATTAGTCTGTCCCAGCTAGAGGGAGATAAAGAGGGCTAGTT AGTTCTTGXGAGCAGCTGCTTTTGAGGAGAAAATATATAGCTTTGGACACGAGGAAGATCCAGAAAATTATCATT GAACATATTAATGGTTATTTCTTTTTTTTTTGGATTTCCXAGAAAAGCCTCTTAATTTTATGCTTTCTCATCGAAGT AATGTACCCTTTTTTTCTGAAACTGAATTAAATACTCATTTT

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MAALLLRHVGRHCLRAHFSPQLCIRNAVPLGTTAKEEMERFWNKNIGSNRPLSPHITIYSWSLPMAMSICHRGTG IALSAGVSLFGMSALLLPGNFESYLELVKSLCLGPALIHTAKFALVFPLMYHTWNGIRHLMWDLGKGLKIPQLYQ SGVVVLVLTVLSSMGLAAM

GATGGCTGCGCTGTTGCTGAGACACGTTGGTCGTCATTGCCTCCGAGCCCACTTTAGCCCTCAGCTCTGTATCAG
AAATTGGTCTCTTCCCATGGCGATGTCCATCTGCCACCGTGGCACTGGTATTGCTTTGAGTGCAGATGTGGGACC
TAGGAAAAGGCCTGAAGATTCCCCAGCTATACCAGTCTGGAGTGGTTGTCCTGGTTCTTACTGTGTTGTCCTCTA
TGGGGCTGGCAGCCATGTGAAGAAAGGAGGCTCCCAGCATCATCTTCCTACACATTATTACATTCACCCATCTTT
CTGTTTGTCATTCTTATCTCCAGCCTGGGAAAAGTTCTCCTTATTTGTTTAGATCCTTTTTGTATTTTCAGATCTC
CTTGGAGCAGTAGAGTACCTGGTAGACCTTAATAGTGGAAAAGGGTCTAGTTTTCCCCTTGTTTCTAAAGATGAG
GTGGCTGXCAAAAAACTCCCCTTTTTTGCCCACAGCTTGCCTACTCTCGGCCTAGAAGCAGTTAT

MAAQRPLRVLCLAGFRQSERGFREKTGALRKALRGRAELVCLSGPHPVPDPPGPEGARSDFGSCPPEEQPRGWWF SEQEADVFSALEEPAVCRGLEESLGMVAQALNRLGPFDGLLGFSQGAALAALVCALGQAGDPRFPLPRFILLVSG FCPRGIGFKESILQRPLSLPSLHVFGDTDKVIPSQESVQLASQFPGAITLTHSGGHFIPAAAPQRQAYLKFLDQF

5044/6881 FIGURE 4656A

GCGGCGAGGGCGCGGGGCTCTGAGGACCGCTCGGCCGCCTCCTGCCACACCATGGGCAGCGCAGAGGACGCA GTCAAAGAGAAACTGCTGTGGAACGTGAAGAAGGAGGTGAAGCAAATCATGGAGGAGGCTGTCACCAGGAAGTTT GTGCATGAAGACAGCCACCATCATTGCTTTATGTGGTGCAGTGGAGGCTTGCCTCTTGCATCAGCTGAGACGC CGTGCCGCTGGCTTCCTGCGCAGTGACAAGATGGCAGCCCTGTTCACCAAGGTGGGGAAGACGTGCCCAGTGGCG GGGGAGATTTGCCACAAGGTACAGGAGCTGCAGCAACAAGCAGAGGGCAGGAAACCCTCAGGGGTCAGCCAGGAG GCCCTGCGGAGACAGGCCTCAGCCAGCGGGAAGGCCCCGGCCCTCAGCCCTCAGGCCTTGAAACACGTATGGGTA CGCACGGCGCTCATCGAGAAAGTTCTGGACAAGGTCGTGCAATACCTGGCGGAAAACTGCAGCAAGTACTACGAG AAGGAGGCACTGCTGGCAGACCCTGTGTTCGGCCCGATCCTGGCCTCTCTTCTAGTGGGACCCTGTGCCTTGGAA TACACTAAGCTCAAGACAGCCGATCACTGCACTGACCCCTCTGCTGATGAGCTGGTCCAGCGGCACCGCATC CGGGGTCCACCTACTCGCCAGGACTCCCCTGCAAAGCGCCCAGCCCTGGGGATCCGGAAACGGCACTCAAGCGGC AGCGCGTCGGAGGACAGGCTGGCTGTCCCGCGAGTGTGTGGAGTCCCTGCACCAGAACTCACGGACGCG CTGCTCTATGGCAAGAACCACGTGCTGCTGCAGCCGAAGGAGGATATGGAGGCGGTCCCTGGCTACCTCTCCCTG CACCAGTCTGCAGAGGCCTGACTCTGAAGTGGACCCCCAACCAGCTCATGAATGGGACTCTGGGGGACTCCGAG CTGGAAAAGAGCGTTTACTGGGACTATGCCCTCGTGGTGCCCTTCAGCCAGGTCGTGTGCATCCACTGCCACCAG CAAAAGAGCGGTGGCACGCTTGTGCTGGTGAGCCAGGATGGCATCCAGAGGCCGCCGCTGCATTTCCCACAGGGA GGACACCTGCTGTCCTTTCTGTCCTGTCTGGAGAATGGGCTGCTGCCTCGGGGACAGCTAGAGCCCCCGCTGTGG ACCCAGCAAGGGAAGGGGAAAGTGTTCCCCAAGCTACGGAAACGAAGCAGCATTCGCTCCGTGGATATGGAGGAG ATGGGCACGGGGCGGCCACCGACTATGTGTTCCGGATCATCTACCCCGGCCACAGGCACGAGCACAACGCTGGT GACATGATCGAGATGCAGGGCTTTGGGCCCAGCCTGCCAGCCTGGCACCTGGAGCCCCTGTGCAGTCAGGGCTCC TCCTGCCTCCTGCTCCTCCAGCAGCTCCCCACATGCAACCCCCAGCCACTGTAGCTGCATCCCCGACCGGTTG CGCCACCTGTCCACGGTGCGGACCCACCTGTCGGCGCTGGTGCACCATAGCGTTATCCCACCTGACCGGCCCCCG GGGGCCTCCGCGGGCCTCACCAAGGACGTGTGGAGCAAGTATCAGAAGGACAAAAAGAACTACAAAGAGCTGGAG CTGCTGCGGCAAGTTTACTACGGAGGCATAGAGCACGAGATCCGCAAGGACGTCTGGCCCTTTCTGCTTGGCCAC TACAAGTTCGGCATGAGCAAGAAGGAGATGGACCAGGTGGACGCAGTGGTGGCAGCAAGGTACCAGCAGGTGTTG TCCTCAGGCAGCATCGACAGCCACGTGCAGCGCCTCATCCACCGAGACTCCACCATCAGCAACGATGTGTTT ATCTCAGTGGATGATCTGGAACCCCCGGAGCCCCAGGACCCTGAAGATTCCAGACCAAAACCTGAGCAGGAAGCA GGACCCGGGACTCCGGGCACCGCGTGGTGGAGCAGCATTCCGTGGAGTTCGACTCTCCAGACTCAGGACTG CCCTCTCTCGCAATTACTCEGTGGCCTCGGGCATCCAGTCAAGCCTAGATGAGGGGCAGAGCGTGGGCTTCGAA GAGGAGGACGCCGTGGGGAGGAAGGCTCCAGTGGGCCCGGCCCTGCAGCTCACACTTTGAGGGAGCCCCAGGAT ACTATAGAATTACTGGACACTGTGGCCTTAAACCTGCACCGCATAGACAAGGATGTGCAGAGGTGTGACCGCAAC TACTGGTACTTCACGCCCCCAACCTCGAGAGGCTCAGAGACGTCATGTGCAGCTACGTGTGGGAGCACCTGGAC GTGGGCTATGTGCAGGGCATGTGCGATCTGCTGGCGCCTCTCCTGGTCACCCTCGACAATGATCAGCTGGCCTAC AGCTGCTTCAGCCACCTCATGAAGAGGATGAGCCAGAACTTCCCCAACGGGGGTGCCATGGACACCCACTTTGCC AACATGCGCTCCCTCATCCAGATCCTGGACTCAGAGCTGTTTGAGCTGATGCATCAGAATGGAGACTACACCCAC TTCTACTTCTGTTATCGCTGGTTCCTGCTGGATTTTAAGAGAGAACTGCTGTATGAGGATGTGTTTGCTGTGTGG GAGGTGATCTGGGCAGCCAGGCACATCTCATCGGAGCACTTTGTCCTGTTCATCGCCCTCGCCCTGGTGGAGGCC TACCGAGAGATCATCCGTGACAACAACATGGACTTCACTGACATCAAGTTTTTCAATGAACGTGCTGAGCAT CACGATGCCCAGGAGATCCTGCGGATTGCCCGGGACCTCGTCCACAAGGTGCAGATGCTCATAGAGAACAAGTGA GCTGGGGCCAGGAGCCAGCCGTGCAGAGCCTGGGCTCCGGCAGGGAGAGGTGCAGGGGAGTCACCGCCCAGA CCTCCCCAGCCACCCACCCCCCCTCTGTTCCTAACAAAGCGGTTGTGAGCCTGGATCCGACTCCCGGCAGT GCTGACCCTGCAGGGCAAGTCAGGGCCAGGATGCCCTCGGATCAGGCCGGGATGGGAGGGGTCAGCCTCAGGG AGCAGCTGCCTTGGGGGACACACCTACTCTGCTCCCCTCTCACACATCTGGGAGTAGCCCCACTGCCACCTGCAG TACTCAGCTGGGGTGGCAGAGGGCGAGAGGCTCTGTGCTGTCCCTTCTGAGGGTCCCTTTGCAGTCCCAGTAT ATTGTGCGTGCACCAGCCCAGCTGGAGCAACCAAAACTGCTTCTGGTTTAGGCACACGTCACGGGTGCGGGAGA

5045/6881 FIGURE 4656B

CCCGGGCACGGGAGACCCGGGCCGCCTTCAGGCCGCTCCCCCAGATTCTGGGGCAGTCGGAAGATGTGGGCCCT
GGGTGGAGCACCCCACTTCAGCAGCACTGCCACTGCCTTTGGCCACCTGAGGTGACCCCCAGGCCTCCCCGGCC
TTGTACAGTGTACCTCTGTGTATCTGTACAGCCTCGCTCCTGCCACCCCACCCTTGCGTTCTGCATTAGGTACTT
CCCTGAAAACCACGTGTAAGAAGTGATGCTTTTGCCAGTGGATGATCTGGAATGCGACCGGAGCACTTGCTCTGA
GGAATCCCAGGGTGACTCTGTCGGGGAAGAATCCGGTCACAGCCTCCCCTCAGAGACCAGGCCTCAGTTCGAGGGC
AGCCCATTATCTGTCGCAGACATCTGCCATGTCCCTGAGACTGCGGGAGGCAGGGGATGCATGGGTGTCCCCATC
TGTCCCTGGTGAGAAGCAAGGCTAGCTCTGCCTTCCACATGCTTCTCAGGATGCCAAGAGGCCTAGGAACCCAGA
AACCCCCTTGGAGGAGCTGTGTATGCGGGGGTGCCAAGAAGGGCATAGCTCCTGCCCCCAGGCCTAGGCATGCTG
CTTGCTCGGCCATCCCCACTTCCTCCTCTACCCCAACACATGCAGGCTTAGGCCTTGCCCTGGAACATGAGAGCCC
TGCCCGGGGCTGGGGCCTAGTCCAGCAGCCACCAAAAGTCTGGCAGACTTTCTGCATTTTGAGAAACATGACAAAGG
GCCCCGCAGCCCTTCTGCACCCAGCACACCCCAGCCCTGCCCCCGGGCACTGCACAGCCTGTCTGG
GGGCCAGACCACCCCATTGTCCATCCTTGTTGTCCGTGAGTCCTTGGCCTCCACCAAGCACTGTGGCCATTGTC
TGCCTGCCTTAGTGACTCCGTGGTTTTGTGAGGAGCAGAGTGTGTATGATTTTTGCCTCAGAAACTATACTCTTC
TGTGTAACAGACCAATAAACAACATTTGTCAAC

5046/6881 FIGURE 4657

MGSAEDAVKEKLLWNVKKEVKQIMEEAVTRKFVHEDSSHIIALCGAVEACLLHQLRRRAAGFLRSDKMAALFTKV
GKTCPVAGEICHKVQELQQQAEGRKPSGVSQEALRRQGSASGKAPALSPQALKHVWVRTALIEKVLDKVVQYLAE
NCSKYYEKEALLADPVFGPILASLLVGPCALEYTKLKTADHYWTDPSADELVQRHRIRGPPTRQDSPAKRPALGI
RKRHSSGSASEDRLAACARECVESLHQNSRTRLLYGKNHVLVQPKEDMEAVPGYLSLHQSAESLTLKWTPNQLMN
GTLGDSELEKSVYWDYALVVPFSQVVCIHCHQQKSGGTLVLVSQDGIQRPPLHFPQGGHLLSFLSCLENGLLPRG
QLEPPLWTQQGKGKVFPKLRKRSSIRSVDMEEMGTGRATDYVFRIIYPGHRHEHNAGDMIEMQGFGPSLPAWHLE
PLCSQGSSCLSCSSSSSPHATPSHCSCIPDRLPLRLLCESMKRQIVSRAFYGWLAHCRHLSTVRTHLSALVHHSV
IPPDRPPGASAGLTKDVWSKYQKDKKNYKELELLRQVYYGGIEHEIRKDVWPFLLGHYKFGMSKKEMEQVDAVVA
ARYQQVLAEWKACEVVVRQREREAHPATRTKFSSGSSIDSHVQRLIHRDSTISNDVFISVDDLEPPEPQDPEDSR
PKPEQEAGPGTPGTAVVEQQHSVEFDSPDSGLPSSRNYSVASGIQSSLDEGQSVGFEEEDGGGEEGSSGPGPAAH
TLREPQDPSQEKPQAGELEAGEELAAVCAAAYTIELLDTVALNLHRIDKDVQRCDRNYWYFTPPNLERLRDVMCS
YVWEHLDVGYVQGMCDLLAPLLVTLDNDQLAYSCFSHLMKRMSQNFPNGGAMDTHFANMRSLIQILDSELFELMH
QNGDYTHFYFCYRWFLLDFKRELLYEDVFAVWEVIWAARHISSEHFVLFIALALVEAYREIIRDNNMDFTDIIKF

CGCCGCCCAGCTCCCAGCCGAGGCTTTCTCAACCGCGTCAATAAAAGGCCGCCCCGACCCGCCCCCGCCCCCGC GAGGGACCGAGTGCTCCCCATGAGCGCACGTGGGCCGGGCGGTCCGCAAGCCCCGGCTGAGAGCGCGCCATGGGGC AGGCGGGCTGCAAGGGGCTCTGCCTGTCGCTGTTCGACTACAAGACCGAGAAGTATGTCATCGCCAAGAACAAGA AGGTGGGCCTGCTGCAGCCTGCAGGCCTCCATCCTGGCGTACCTGGTCGTATGGGTGTTCCTGATAAAGA AGGGTTACCAAGACGTCGACACCTCCCTGCAGAGTGCTGTCATCACCAAAGTCAAGGGCGTGGCCTTCACCAACA CCTCGGATCTTGGGCAGCGGATCTGGGATGTCGCCGACTACGTCATTCCAGCCCAGAATGAAGGCATTCCTGATG GCGCGTGCTCCAAGGACAGCGACTGCCACGCTGGGGAAGCGGTTACAGCTGGAAACGGAGTGAAGACCGGCCGCT GCCTGCGGAGAGACTTGGCCAGGGGCACCTGTGAGATCTTTGCCTGGTGCCCGTTGGAGACAAGCTCCAGGC CGGAGGAGCCATTCCTGAAGGAGGCCGAAGACTTCACCATTTTCATAAAGAACCACATCCGTTTCCCCAAATTCA ACTTCTCCAAAAGCAATGTGATGGACGTCAAGGACAGATCTTTCCTGAAATCATGCCACTTTGGCCCCAAGAACC ACTACTGCCCCATCTTCCGACTGGGCTCCGTGATCCGCTGGGCCGGGAGCGACTTCCAGGATATAGCCCTGGAGG GTGGCGTGATAGGAATTAATATTGAATGGAACTGTGATCTTGATAAAGCTGCCTCTGAGTGCCACCCTCACTATT CTTTTAGCCGTCTGGACAATAAACTTTCAAAGTCTGTCTCCTCCGGGTACAACTTCAGATTTGCCAGATATTACC GAGACGCAGCCGGGGTGGAGTTCCGCACCCTGATGAAAGCCTACGGGATCCGCTTTGACGTGATGGTGAACGGCA AGGAAGTGAGGGCCTAGAAGACAGTTCCCAGGAGGCCGAGGACGAGGCATCGGGGCTGGGGCTATCTGAGCAGC TCACATCTGGGCCAGGGCTGCTGGGGATGCCGGAGCAGCAGGAGCCTGCAGGAGCCACCCGAGGCGAAGCGTGGAA GCAGCAGTCAGAAGGGGAACGGATCTGTGTGCCCACAGCTCCTGGAGCCCCACAGGAGCACGTGAATTGCCTCTG CTTACGTTCAGGCCCTGTCCTAAACCCAGCCGTCTAGCACCCAGTGATCCCATGCCTTTGGGAATCCCAGGATGC TGCCCAACGGGAAATTTGTACATTGGGTGCTATCAATGCCACATCACAGGGACCAGCCATCACAGAGCAAAGTGA CCTCCACGTCTGATGCTGGGGTCATCAGGACGGACCCATCATGGCTGTCTTTTTTGCCCCACCCCTGCCGTCAGT CCTTGAGCACCTCAGCTAAGGACCGCAGTGCCCTGTAGAGTTCCTAGATTACCTCACTGGGAATAGCATTGTGCG TGTCCGGAAAAGGGCTCCATTTGGTTCCAGCCCACTCCCCTCTGCAAGTGCCACAGCTTCCCTCAGAGCATACTC TCCAGTGGATCCAAGTACTCTCTCTCCTAAAGACACCACCTTCCTGCCAGCTGTTTGCCCTTAGGCCAGTACACA GAATTAAAGTGGGGGAGATGGCAGACGCTTTCTGGGACCTGCCCAAGATATGTATTCTCTGACACTCTTATTTGG TCATAAAACAATAAATGGTGTCAATTTC

5048/6881 FIGURE 4659

 $\label{thm:mrtqrergeapdicslgllenmemflwphiceiykkgdtvdikgmgtvqkgmphkgyhgktgrvynvpqhavgivvnkqvkgkilakrinvriehikhsksrdsflervkendqkkkeakekgtwvqlkhqpappreahfvrtngkapellepipyefma$

5050/6881 FIGURE 4661

MAATLLAARGAGPAPAWGPEAFTPDWESREVSTGTTIMAVQFDGGVVLGADSRTTTGSYIANRVTDKLTPIHDRI FCCRSGSAADTQAVADAVTYQLGFHSIELNEPPLVHTAASLFKEMCYRYREDLMAGIIIAGWDPQEGGQVYSVPM GGMMVRQSFAIGGSGSSYIYGYVDATYREGMTKEECLQFTANALALAMERDGSSGGVIRLAAIAESGVERQVLLG DQIPKFAVATLPPA

GGGGGAAGATGGCGGCAGCCGTTCTGAGTGGGCCCTCTGCGGGCTCCGCGGCTGGGGTTCCTGGCGGGACCGGG GTCTCTCGGCAGTGAGCTCGGGCCCGGCTCCGCCTGCTGCTGCTGGAGAGTGTTTCTGGTTTGCTGCAACCTC GAACGGGGTCTGCCGTTGCTCCGGTGCATCCCCCAAACCGCTCGGCCCCACATTTGCCCGGGCTCATGTGCCTAT TGCGGCTGCATGGGTCGGTGGGCCCAGAACCTTTCAGCTCTTGGGGCATTGGTGAGTCTCAGTAATGCAC ${\tt GTCXTXXCAGTTCCATCAAAACTCGGTTTGAGGGCCTGTGTCTGCTGCTGCTGGTAGGGGAGAGCCCCACAG}$ AGCTATTCCAGCAGCACTGTGTGTCTTGGCTTCGGAGCATTCAGCAGGTGTTACAGACCCAGGACCCGCCTGCCA TCTCCATGAACCACCTCCCTGGCCTTCTCACCTCCCTGCTGGGCCTCAGGCCAGAGTGTGAGCAGTCAGCATTGG AAGGAATGAAGGCTTGTATGACCTATTTCCCTCGGGCTTGTGGTTCTCTCAAAGGCAAGCTGGCCTCATTTTTTC TGTCTAGGGTGGATGCCTTGAGCCCTCAGCTCCAACAGTTGGCCTGTGAGTGTTATTCCCGGCTGCCCTCTTTAG GGGCTGGCTTTTCCCAAGGCCTGAAGCACCGAGAGCTGGGAGCAGGAGCTACACAGTCTGCTGGCCTCACTGC ACACCCTGCTGGGGGCCCTGTACGAGGGAGCAGAGACTGCTCCTGTGCAGAATGAAGGCCCTGGGGTGGAGATGC TGCTGTCCTCAGAAGATGGTGATGCCCATGTCCTTCTCCAGCTTCGGCAGAGGTTTTCGGGACTGGCCCGCTGCC TAGGGCTCATGCTCAGCTCTGAGTTTGGAGCTCCCGTGTCCCTGTGCAGGAAATCCTGGATTTCATCTGCC GGACCCTCAGCGTCAGTAGCAAGAATATTAGCTTGCATGGAGATGGTCCCCTGCGGCTGCTGCTGCCCTCTA TCCACCTTGAGGCCTTGGACCTGCTGTCTGCACTCATCCTCGCGTGTGGAAGCCGGCTCTTGCGCTTTGGGATCC TGATCGGCCGCCTGCTTCCCCAGGTCCTCAATTCCTGGAGCATCGGTAGAGATTCCCTCTCTCCCAGGCCAGGAGA GGCCTTACAGCACGGTTCGGACCAAGGTGTATGCGATATTAGAGCTGTGGGTGCAGGTTTGTGGGGCCTCGGCCG TAAAGCTGGATGTGGGGGAAGCTATGGCCCCGCCAAGCCACCGGAAAGGGGATAGCAATGCCAACAGCGACGTGT GTGCGGCTGCACTCAGAGGCCTCAGCCGGACCATCCTCATGTGTGGGCCTCTCATCAAGGAGGAGACTCACAGGA GACTGCATGACCTGGTCCTCCCCTGGTCATGGGTGTACAGCAGGGTGAGGTCCTAGGCAGCTCCCCGTACACGA GCTCCCGCTGCCGCGTGAACTCTACTGCCTGCTGCTGCTGCTGCTGCCCGTCTCCTCGCTGCCCACCTC CTCTTGCCTGTGCCCTGCAAGCCTTCTCCCTCGGCCAGCGAGAAGATAGCCTTGAGGTCTCCTCTTTCTGCTCAG AAGCACTGGTGACCTGTGCTCTGACCCACCCCCGGGTTCCTCCCCTGCAGCCCATGGGCCCCACCTGCCCCA CACCTGCTCCAGTTCCCCCTCTGAGGCCCCATCGCCCTTCAGGGCCCCACCGTTCCATCCTCCGGGCCCCATGC $\tt CCTCAGTGGGCTCCATGCCCTCAGCAGGCCCCATGCCTTCAGCAGGCCCCTAGCAGGCCCTGTGCCCT$ CGGCACGCCCTGGACCTCCCACCACACCACCTAGGCCTTTCTGTCCCAGGCCTAGTGTCTCTCCCC GGCTTCTTCCTGGCCCTGAGAACCACCGGGCAGGCTCAAATGAGGACCCCATCCTTGCCCCTAGTGGGACTCCCC CACCTACTATACCCCCAGATGAAACTTTTGGGGGGGAGAGTGCCCAGACCAGCCTTTGTCCACTATGACAAGGAGG AGGCATCTGATGTGGAGATCTCCTTGGAAAGTGACTCTGATGACAGCGTGGTGATCGTGCCCGAXGGGGCTTCCC CCCCTGCCACCCCACCCCTCAGGTGCCACACCCCCTATAGCCCCCACTGGGCCACCAACAGCCTCCCC TCCTGTGCCAGCGAAGGAGGAGCCTGAAGAACTTCCTGCAGCCCCAGGGCCTCTCCCGCCACCCCCACCTCCGCC GCCGCCTGTTCCTGGTCCTGTGACGCTCCCTCCACCCCAGTTGGTCCCTGAAGGGACTCCTGGTGGGGGAGGACC CCCAGCCCTGGAAGAGGATTTGACAGTTATTAATATCAACAGCAGTGATGAAGAGGAGGAGGAAGAAGAAGA AGAAGAGGAGGAGGAGGAGGAAGAAGAACTGGAAGAGGTGGAAGACCTGGAGTTTGGCACAGCAGGAGGGGA GGTAGAAGAAGGTGCACCTCCACCCCCAACCCTGCCTCCAGCTCTGCCTCCCCCTGAGTCTCCCCCAAAGGTGCA GCCAGAACCCGAACCTGAACCCGGGCTGCTTTTGGAAGTGGAGGAGCACGGAGGAGGAGGAGGGCTGGGGCTGA CACAGCTCCCACCCTGGCCCCTGAAGCGCTCCCCTCCCAGGGAGAGGTGGAGAGGGGAAAGCCCTGCGGC AGGGCCCCXTXCXXXCCCAGGAGCTTGTTGAAGAAGAGCCCTCTGCTCCCCCAACCCTGTTGGAAGAGGAGACT GAGGATGGGAGTGACAAGGTGCAGCCCCCACCAGAGACACCTGCAGAAGAAGAGATGGAGACAGAGACAGAGGCC GAAGCTCTCCAGGAAAAGGAGCAGGATGACACAGCTGCCATGCTGGCCGACTTCATCGATTGTCCCCCTGATGAT GAGAAGCCACCTCCCACAGAGCCTGACTCCTAGCCATCTTCTGCACCCCACTCTTTGTTTCCAATAAAGTTA **TGTCCTTAGATAGCG**

MAAAVLSGPSAGSAAGVPGGTGGLSAVSSGPRLRLLLLESVSGLLQPRTGSAVAPVHPPNRSAPHLPGLMCLLRL HGSVGGAQNLSALGALVSLSNARLSSIKTRFEGLCLLSLLVGESPTELFQQHCVSWLRSIQQVLQTQDPPATMEL AVAVLRDLLRYAAQLPALFRDISMNHLPGLLTSLLGLRPECEQSALEGMKACMTYFPRACGSLKGKLASFFLSRV DALSPQLQQLACECYSRLPSLGAGFSQGLKHTESWEQELHSLLASLHTLLGALYEGAETAPVQNEGPGVEMLLSS EDGDAHVLLQLRQRFSGLARCLGLMLSSEFGAPVSVPVQEILDFICRTLSVSSKNISLHGDGPLRLLLLPSIHLE ALDLLSALILACGSRLLRFGILIGRLLPOVLNSWSIGRDSLSPGOERPYSTVRTKVYAILELWVQVCGASAGMLQ GGASGEALLTHLLSDISPPADALKLRSPRGSPDGSLQTGKPSAPKKLKLDVGEAMAPPSHRKGDSNANSDVCAAA ${\tt LRGLSRTILMCGPLIKEETHRRLHDLVLPLVMGVQQGEVLGSSPYTSSRCRRELYCLLLALLLAPSPRCPPPLAC}$ ALQAFSLGQREDSLEVSSFCSEALVTCAALTHPRVPPLQPMGPTCPTPAPVPPPEAPSPFRAPPFHPPGPMPSVG ${\tt SMPSAGPMPSAGPMPSAGPVPSARPGPPTTANHLGLSVPGLVSVPPRLLPGPENHRAGSNEDPILAPSGTPPPTI$ PPDETFGGRVPRPAFVHYDKEEASDVEISLESDSDDSVVIVPEGLPPLPPPPPSGATPPPIAPTGPPTASPPVPA KEEPEELPAAPGPLPPPPPPPPPPVPGPVTLPPPOLVPEGTPGGGGPPALEEDLTVININSSDEEEEEEEEEE APPPPTLPPALPPPESPPKVQPEPEPEGLLLEVEEPGTEEERGADTAPTLAPEALPSQGEVEREGESPAAGPPP QELVEEEPSAPPTLLEEETEDGSDKVQPPPETPAEEEMETETEAEALQEKEQDDTAAMLADFIDCPPDDEKPPPP **TEPDS**

5055/6881 FIGURE 4666

 ${\tt MAGWNAYIDNLMADGTCQDAAIVGYKDSPSVWAAVPGKTFVNITPAEVGVLVGKDRSSFYVNGLTLGGQKCSVIR} \\ {\tt DSLLQDGEFSMDLRTKSTGGAPTFNVTVTKTDKTLVLLMGKEGVHGGLINKKCYEMASHLRRSQY} \\$

5056/6881 FIGURE 4667A

GGGGGGTCGGTGTGGGGTAGAATGGCCGCTGCCGCCGTCACCCGCGGGACCCCGGGAGCACÁGACTCCCCCTCCC CCCGGCCCTCAGGCCGGGGTGACCTTGCCCCCTGGAGCCCTCACCATGAATACCAAGGACACCACCGAGGTTG GGCTGTCTTGTGCCCCAAAGACAAGGCCTCAGAATGGCTCCATCATCCTCTACAATCGCAAGAAGGTGAAATATC GGAAGGATGGTTACCTCTGGAAGAGCGGAAGGATGGGAAGACCACCCGAGAGGACCACATGAAGCTGAAGGTCC AGGGCATGGAGTGTCTCTATGGCTGCTACGTTCACTCTTCCATCGTCCCCACATTCCATCGGCGCTGCTACTGGC TGCTCCAGAACCCTGACATCGTCCTTGTGCACTACCTGAACGTCCCAGCCCTGGAGGACTGTGGAAAGGGCTGCA GCCCCATCTTTTGTTCCATCAGCAGCGACCGTCGAGAGTGGCTGAAGTGGTCCCGGGAGGAGTTGTTGGGACAGC TGAAGCCCATGTTTCATGGCATCAAGTGGAGCTGCGGGAATGGAACAGAAGAGTTCTCTGTAGAACACCTGGTGC AGCAGATTTTGGACACCCACCCAACCAAGCCTGCTCCCCGAACCCACGCCTGTCTCTGCAGTGGGGGGGCTTGGTT CTGGGAGCCTTACCCACAAATGCAGCAGCACGAAACACCGCATCATCTCTCCCAAAGTGGAGCCCCGAGCTTTAA CCCTGACCTCTATCCCCCACGCTCACCCCCAGAGCCTCCTCCACTGATAGCCCCACTTCCCCCAGAGCTCCCCA AGGCACACACCTCCCCATCTTCTTCCTCTTCCTCCTCATCAGGTTTTGCAGAGCCCCTAGAAATCAGACCTA GCCCTCCCACTTCTCGAGGGGGTTCTTCAAGAGGAGGCACTGCTATCCTCCTCCTGACAGGACTGGAGCAGCGGG CTGGAGGCTTGACGCCCACCAGGCACTTGGCTCCACAGGCTGATCCTAGGCCTTCCATGAGTTTGGCAGTGGTTG TAGGCACTGAGCCTTCTGCCCCACCAGCTCCTCCCAGTCCTGCCTTTGACCCTGATCGTTTTCTCAACAGCCCCC AGAGGGCCAGACATATGGAGGGGGGCAGGGAGTAAGCCCAGACTTCCCCGAGGCAGAGGCCGCTCATACCCCCT GTGGGAGAGAGGAAACTGCTTCTTCATCCAAGATGATGACAGTGGGGAGGAGCTCAAGGGTCACGGGGCTGCCC CACCCATACCTTCACCCCTCCCTCACCCCACCCTCACCTGCCCCCTTGGAGCCGTCAAGCAGGGTAGGAAGAG GAGAGGCCTTGTTTGGAGGACCTGTTGGGGCCAGTGAACTGGAGCCCTTCAGTCTTTCATCATTCCCAGACCTTA TGGGAGAACTCATCAGTGACGAAGCTCCAAGCATCCCTGCTCCGACCCCCAGCTGTCTCCTGCTCTTAGCACCA TCACAGACTTCTCCCCAGAGTGGTCCTACCCAGAGGGTGGGGTCAAGGTGCTCATCACAGGTCCTTGGACCGAAG CCGCCGAGCATTACTCCTGTGTCTTTGATCACATCGCAGTGCCAGCCTCACTTGTCCAGCCTGGTGTCTTACGCT GCTACTGTCCCGCCCATGAGGTAGGGCTGGTGTCTTTGCAGGTGGCAGGGCGGGAGGGGCCCCTTTCTGCTTCTG TGCTCTTTGAGTATCGAGCCCGCCGATTCCTGTCTCTGCCTAGTACTCAACTTGACTGGCTGTCACTGGACGACA ACCAGTTCCGGATGTCCATACTAGAGCGACTGGAGCAGATGGAGAAGCGGATGGCAGAGATCGCAGCAGCTGGGC AGGTGCCTTGCCAGGGTCCTGATGCTCCTCCAGTTCAGGATGAAGGCCAGGGGCCTGGGTTCGAAGCACGGGTAG TGGTCTTGGTAGAAAGCATGATCCCACGCTCCACCTGGAAGGGTCCTGAACGTCTGGCCCATGGAAGCCCCTTCC GGGGCATGAGCCTTCTGCACCTGGCTGCCCCAGGGCTATGCCCGCCTCATCGAGACCCTGAGCCAGTGGCGGA GTGTGGAGACTGGAAGCTTGGACTTAGAGCAGGAGGTTGACCCGCTCAACGTGGATCATTTCTCTTGCACCCCTC TGATGTGGGCTTGTGCCCTGGGACACCTGGAAGCTGCTGTGCTCCTTTTCCGTTGGAACCGACAGGCACTGAGCA TTCCCGACTCTCTGGGCCGTCTGCCATTGTCTGTGGCTCATTCCCGGGGTCATGTGCGCCTTGCCCGCTGCCTTG AGGAACTACAGAGACAGGAGCCTTCGGTGGAGCCCCCATTTGCCCTATCGCCACCCTCCTCCAGCCCAGACACTG GTCTGAGCAGCGTCTCCTCGCCCTCGGAGCTGTCGGATGGCACCTTTTCCGTCACGTCAGCCTATTCTAGTGCCC CAGATGGCAGTCCCCCCCTGCACCTCTGCCAGCCTCTGAGATGACTATGGAGGACATGGCCCCAGGCCAGCTTT CCTCTGGTGTCCCAGAAGCCCCCCTACTCCTCATGGACTATGAGGCTACCAACTCCAAGGGGCCCCTCTCCTCCC TTCCTGCCCTCCCACCAGCTTCAGATGATGGGGCTGCTCCAGAGGACGCTGACAGCCCCACAGGCTGTGGATGTGA TCCCGGTGGACATGATCTCACTAGCCAAGCAGATCATCGAAGCCACACCGGAGCGGATTAAACGAGAGGACTTCG TGGGGCTGCCCGAGGCTGGAGCCTCAATGCGGGAGCGGACAGGGGCTGTGGGGCTCAGTGAGACCATGTCCTGGC TGGCCAGCTACCTGGAGAATGTGGACCATTTCCCCAGCTCAACCCCTCCCAGCGAACTGCCCTTTGAGCGAGGTC GCCTGGCTGTCCCTTCAGCACCCTCCTGGGCAGAGTTTCTCTCTGCATCCACCAGTGGCAAGATGGAAAGTGATT TTGCCCTGCTGACACTATCAGATCACGAGCAGCGGGAACTGTATGAGGCTGCCCGAGTCATCCAGACGGCCTTCC GAAAGTACAAGGGCCGGCGGTGAAGGAGCAGCAGGAGGTAGCAGCAGCTGTAATCCAGCGCTGTTACCGGAAGT ACAAGCAGCTGACCTGGATTGCACTTAAGTTTGCACTCTATAAGAAGATGACCCAGGCGGCCATCCTGATCCAGA GCAAGTTCCGAAGCTACTATGAACAGAAGCGATTTCAGCAGAGCCGCCGAGCGGCTGTGCTCATCCAGCAGCACT

5057/6881 FIGURE 4667B

MNTKDTTEVAENSHHLKIFLPKKLLECLPRCPLLPPERLRWNTNEEIASYLITFEKHDEWLSCAPKTRPQNGSII LYNRKKVKYRKDGYLWKKRKDGKTTREDHMKLKVQGMECLYGCYVHSSIVPTFHRRCYWLLQNPDIVLVHYLNVP ALEDCGKGCSPIFCSISSDRREWLKWSREELLGQLKPMFHGIKWSCGNGTEEFSVEHLVQQILDTHPTKPAPRTH ACLCSGGLGSGSLTHKCSSTKHRIISPKVEPRALTLTSIPHAHPPEPPPLIAPLPPELPKAHTSPSSSSSSSSS FAEPLEIRPSPPTSRGGSSRGGTAILLLTGLEORAGGLTPTRHLAPQADPRPSMSLAVVVGTEPSAPPAPPSPAF DPDRFLNSPQRGQTYGGGQGVSPDFPEAEAAHTPCSALEPAAALEPQAAARGPPPQSVAGGRRGNCFFIQDDDSG EELKGHGAAPPIPSPPPSPPPSPAPLEPSSRVGRGEALFGGPVGASELEPFSLSSFPDLMGELISDEAPSIPAPT PQLSPALSTITDFSPEWSYPEGGVKVLITGPWTEAAEHYSCVFDHIAVPASLVQPGVLRCYCPAHEVGLVSLQVA GREGPLSASVLFEYRARRFLSLPSTQLDWLSLDDNQFRMSILERLEQMEKRMAEIAAAGQVPCQGPDAPPVQDEG OGPGFEARVVVLVESMIPRSTWKGPERLAHGSPFRGMSLLHLAAAQGYARLIETLSQWRSVETGSLDLEQEVDPL NVDHFSCTPLMWACALGHLEAAVLLFRWNRQALSIPDSLGRLPLSVAHSRGHVRLARCLEELQRQEPSVEPPFAL SPPSSSPDTGLSSVSSPSELSDGTFSVTSAYSSAPDGSPPPAPLPASEMTMEDMAPGQLSSGVPEAPLLLMDYEA TNSKGPLSSLPALPPASDDGAAPEDADSPQAVDVIPVDMISLAKQIIEATPERIKREDFVGLPEAGASMRERTGA ${\tt VGLSETMSWLASYLENVDHFPSSTPPSELPFERGRLAVPSAPSWAEFLSASTSGKMESDFALLTLSDHEQRELYE}$ AARVIOTAFRKYKGRRLKEOOEVAAAVIORCYRKYKOLTWIALKFALYKKMTQAAILIQSKFRSYYEQKRFQQSR RAAVLIQQHYRSYRRRPGPPHRTSATLPARNKGSFLTKKQDQAARKIMRFLRRCRHRMRELKQNQELEGLPQPGL

AGGACGTGGGCGTGCAGGACGCGGGCGTGCAGGACGCCAGAGCTGGGTCAGAGCTCGAGCCAGCGGCGCCCCGGAG GGCTCTGGACAAGTCAGATTCCCACCCCTCTGACGCTCTGACCAGGAAAAAACCGGCCAAGGCGGAATCTAAGTC $\tt CTTTGCTGTGGGAATGTTCAAAGGCCAGCTCACCACAGATCAGGTGTTCCCATACCGGTGCTCAACGAAGA$ GCAGACACAGTTTCTTAAAGAGCTGGTGGAGCCTGTGTCCCGTTTCTTCGAGGAAGTGAACGATCCCGCCAAGAA TGACGCTCTGGAGATGGTGGAGGAGCCACTTGGCAGGGCCTCAAGGAGCTGGGGGCCTTTGGTCTGCAAGTGCC TGGCGTGGGCATTACCCTGGGGGCCCATCAGAGCATCGGTTTCAAAGGCATCCTGCTCTTTGGCACAAAGGCCCCA GAAAGAAAAATACCTCCCCAAGCTGGCATCTGGGGAGACTGTGGCCGCTTTCTGTCTAACCGAGCCCTCAAGCGG GTCAGATGCAGCCTCCATCCGAACCTCTGCTGTGCCCAGCCCCTGTGGAAAATACTATACCCTCAATGGAAGCAA GCTTTGGATCAGTAATGGGGGCCTAGCAGACATCTTCACGGTCTTTGCCAAGACACCAGTTACAGATCCAGCCAC AGGAGCCGTGAAGGAGAAGATCACAGCTTTTGTGGTGGAGAGGGGCTTCGGGGGCCATTACCCATGGGCCCCCTGA GAAGAAGATGGGCATCAAGGCTTCAAACACAGCAGAGGTGTTCTTTGATGGAGTACGGGTGCCATCGGAGAACGT GCTGGGTGAGGTTGGGAGTGGCTTCAAGGTTGCCATGCACATCCTCAACAATGGAAGGTTTGGCATGGCTGCGGC CCTGGCAGGTACCATGAGAGGCATCATTGCTAAGGCGGTAGATCATGCCACTAATCGTACCCAGTTTGGGGAGAA AATTCACAACTTTGGGCTGATCCAGGAGAAGCTGGCACGGATGGTTATGCTGCAGTATGTAACTGAGTCCATGGC TTACATGGTGAGTGCTAACATGGACCAGGGAGCCACGGACTTCCAGATAGAGGCCGCCATCAGCAAAATCTTTGG CTCGGAGGCAGCCTGGAAGGTGACAGATGAATGCATCCAAATCATGGGGGGTATGGGCTTCATGAAGGAACCTGG AGTAGAGCGTGTGCTCCGAGATCTTCGCATCTTCCGGATCTTTGAGGGGACAAATGACATTCTTCGGCTGTTTGT GGCTCTGCAGGGCTGTATGGACAAAGGAAAGGAGCTCTCTGGGCTTGGCAGTGCTCTAAAGAATCCCTTTGGGAA ${\tt CGGACTTGTCCACCCGGAGTTGAGTCGGAGTGGCGAGCTGGCAGTACGGGCTCTGGAGCAGTTTGCCACTGTGGT}$ GGAGGCCAAGCTGATAAAACACAAGAAGGGGATTGTCAATGAACAGTTTCTGCTGCAGCGGCTGGCAGACGGGGC GCATGAGAAAATGCTCTGTGACACCTGGTGTATCGAGGCTGCAGCTCGGATCCGAGAGGGCATGGCCGCCCTGCA GTCTGACCCCTGGCAGCAAGAGCTCTACCGCAACTTCAAAAGCATCTCCAAGGCCTTGGTGGAGCGGGGTGGTGT GGTCACCAGCACCCACTTGGCTTCTGAATACTCCCGGCCAGGGCCTGTCCCAGTTATGTGCCTTCCCTCAAGCC AAAGCCGAAGCCCCTTTCCTTAAGGCCCTGGTTTGTCCCGAAGGGGCCTAGTGTTCCCAGCACTGTGCCTCT CAAGAGCACTTACTGCCTCGCAAATAATAAAAATTTCTAGCCAG

MQAARMAASLGRQLLRLGGGSSRLTALLGQPRPGPARRPYAGGAAQLALDKSDSHPSDALTRKKPAKAESKSFAV
GMFKGQLTTDQVFPYPSVLNEEQTQFLKELVEPVSRFFEEVNDPAKNDALEMVEETTWQGLKELGAFGLQVPSEL
GGVGLCNTQYARLVEIVGMHDLGVGITLGAHQSIGFKGILLFGTKAQKEKYLPKLASGETVAAFCLTEPSSGSDA
ASIRTSAVPSPCGKYYTLNGSKLWISNGGLADIFTVFAKTPVTDPATGAVKEKITAFVVERGFGGITHGPPEKKM
GIKASNTAEVFFDGVRVPSENVLGEVGSGFKVAMHILNNGRFGMAAALAGTMRGIIAKAVDHATNRTQFGEKIHN
FGLIQEKLARMVMLQYVTESMAYMVSANMDQGATDFQIEAAISKIFGSEAAWKVTDECIQIMGGMGFMKEPGVER
VLRDLRIFRIFEGTNDILRLFVALQGCMDKGKELSGLGSALKNPFGNAGLLLGEAGKQLRRRAGLGSGLSLSGLV
HPELSRSGELAVRALEQFATVVEAKLIKHKKGIVNEQFLLQRLADGAIDLYAMVVVLSRASRSLSEGHPTAQHEK
MLCDTWCIEAAARIREGMAALQSDPWQQELYRNFKSISKALVERGGVVTSNPLGF

5061/6881 FIGURE 4671

GAGACCATGGCGGTAGCAGCACTGGGGGCGGTGGGGTTGGGGAGACGAAGGTGATTTACCACCTGGATGAGGAA GAGACTCCCTACCTGGTGAAGATCCCTGTCCCCGCCGAGCGCATCACCCTCGGCGATTTCAAGAGCGTCCTGCAG ATGGCCCCTCCAGTCCATGAGGCTCGGGCAGAACTGGCGCCTCCAGCCCACCTTTACCTCCTTTGCCACCCGAG AGGACCAGCGGCATTGGGGACTCAAGGCCTCCATCCTTCCACCCTAATGTGTCCAGCAGCCATGAGAATCTGGAG CCTGAGACAGAAACCGAGTCAGTAGTGTCACTGAGGCGGGAGCGCCTCGCAGGAGACAGCAGTGAGCATGGC GCTGGGGGCCACAGGACTGGTGGCCCCTCAAGGCTGGAGCGCCACCTGGCCGGATACGAGAGCTCCTCTACCCTC ATGACCAGCGAGCTGGAGAGTACCAGCCTGGGGGACTCGGACGAGGAGCACCATGAGCAGGTTCAGCAGCTCC AGGACGTCATCCTTCAGCAGCGTCACAGATTCCACAATGTCTCTCAATATCATCACAGTCACGCTAAACATGGAG AAGTACAACTTCCTGGGTATCTCCATTGTTGGCCAGAGCAATGAGCGGGGAGACGGAGGCATCTACATTGGCTCC ATCATGAAGGGTGGGGCTGTGGCGGCCGACGGGCGCATTGAGCCAGGGGACATGCTTTTGCAGGTGAATGACATG AACTTTGAGAACATGAGCAACGATGACGCTGTGCGGGTGCTGAGGGACATTGTGCACAAGCCTGGCCCCATTGTG CTGACTGTGGCCAAGTGCTGGGATCCCTCTCCTCAGGCCTATTTCACTCTCCCCCGAAATGAGCCCATCCAGCCA ATTGACCCTGCTGCCTGGGTGTCCCATTCCGCGGCTCTGACTGGCACCTTCCCAGCCTATCCAGGTTCCTCCTCC ATGAGCACCATTACATCTGGATCGTCTTTGCCTGATGGCTGTGAAGGCCGGGGTCTCTCCGTCCATACGGACATG GCATCGGTGACCAAGGCCATGGCAGCTCCAGAGTCTGGACTGGAAGTCCGGGACCGCATGTGGCTCAAGATCACC ATCCCTAATGCCTTTCTGGGCTCGGATGTGGTTGACTGGCTCTACCATCACGTGGAGGGCTTTCCTGAGCGGCGG GAGGCCCGCAAGTATGCCAGCGGGCTGCTCAAAGCAGGCCTGATCCGACACCGTCAACAAGATCACCTTCTCT GAGCAGTGCTATTACGTCTTCGGAGACCTCAGTGGTGGCTGTGAGAGCTACCTAGTCAACCTGTCTCTCAATGAC AACGATGGCTCCAGTGGGGCTTCAGACCAGGATACCCTGGCTCCTCTGCCTGGGCCCACCCCCTGGCCCCTGCTG CCCACTTCCCTACCAGTACCCTGCCCCACACCCCTACAGCCCGCAGCCTCCACCCTACCATGAGCTTTCATCT TACACCTATGGTGGGGGCAGTGCCAGCAGCATAGTGAGGGCAGCCGGAGCAGTGGGTCGACACGGAGTGAT GGGGGGGCAGGGCCCCGAGGAGCCGGGCCCCCGAGTCCAAGTCCGGCAGTGGCAGTGAGTCTGAG CCCTCCAGCCGAGGGGGCAGCCTTCGGCGGGGTGGGGAAGCAAGTGGGACTAGCGATGGGGGCCCTCCTCCATCC GCCCTCCCTACAACCCCATGATGGTGGTCATGATGCCCCCACCTCCACCTCCAGTCCCTCCAGCAGTGCAGCCT GCCATGGGCAATCCCAGCGAGTTCTTTGTGGATGTTATGTAGCCCACTGTGGGGCCAGGCTGGGCCGGGCGCTCC TGGTGTGTGACTGGTGTCCTGGCCGTCATGTGCTTGCTCTTACAGTGCCTGGGCTCAGCCTACCAGCTGCTGCC ATACAGGAGATTGTGGCCACTGTGACTCTCACCAGCAGTGCCTGGTTCCTCCCCCTTCCCTCAGGGGTAGACAAG GGACCTTTGATTATTTTTAGCTTTGTTTTTTTATAAGCCTTTTTGGGGGGTTAAAATAGAGTTTCTTACATTTTTG GGACTTTTTTAATAGGCATTTCCTCTTTT

AAAAAAAAAAAGGGGGGGGGGGCGGCTAGCGGACTCGAGTCTCAACCGGGCTGAGGCGGACACTTCTG TGGAGCGAAGCAGTGGGAGCATCGAGCACTAGAGGCGGCACCGGGATCCCCGGCTCCGGGGAGGGGGGGCGCCCGGA CCGGGAGGGGGGGGGGGCGATGCTGGAAGCCATGGCGGAGCCCAGTCCCGAAGATCCACCTCCGACCCTTAAG CCAGAGACTCAGCCACCAGAGAAACGGCGGAGAACAATTGAGGATTTCAACAAATTCTGCAGTTTTGTTTTGGCA TATGCTGGTTACATTCCCCCTAGCAAAGAGGAAAGTGACTGGCCAGCCTCTGGCTCCAGCTCTCCATTGCGAGGA GAGAGTGCGGCCGACAGTGATGGCTGGGACTCGGCCCCCTCAGATCTTCGAACCATCCAGACTTTTGTTAAGAAA AAAGTGGCATCTCCTTTGTCCCCCACATCCCTGACACATACCTCCCGGCCCCCTGCTGCTGTTACCCCCGTGCCC CTTTCCCAGGGGGACCTCTCCCATCCTCCAAAGAAGAACCGAAAGAACCGAAAGTTGGGGCCAGGAGCTGGG GCTGGCTTTGGGGTGCTTCGGAGGCCTCGGCCAACTCCTGGGGATGGGGAAAAGAGATCTCGAATCAAGAAGAGC AAGAAGCGGAAGTTAAAAAAGGCAGAACGGGGGGATAGACTCCCACCTCCTGGGCCTCCCAGGCACCCCAGTG ATACAGACTCTGAAGAGGAGGAGGAAGAGGAGGAAGAGAAGAAGAAGAGATGGCAACAGTGG<u>TAG</u>GGGTG AAGCCCCAGTCCCTGTGCTGCCAACACCCCCTGAGGCTCCTAGGCCCCCTGCCACAGTGCACCCTGAAGGAGTCC CTCCTGCTGACAGTGAAAGCAAGGAGGTGGGCAGCACTGAAACAAGCCAAGATGGAGATGCCAGCTCCAGTGAAG GCGAGATGCGGGTCATGGACGAGGACATCATGGTAGAATCAGGTGATGACTCATGGGATCTGATCACATGTTACT GTCGAAAGCCCTTTGCAGGGCGGCCCATGATTGAGTGCAGCCTGTGTGGGACGTGGATCCACCTCTCCTGTGCTA AGATTAAGAAGACCAACGTCCCCGACTTCTTTTATTGCCAGAAATGCAAGGAACTGAGGCCAGATGCCCGGCGGT TAGGGGGGCCCCCAAATCTGGAGAGCCCTGATGGCACCAACTTTAGCCTGGAACTTCCAAATGACAACATGATT TGGGAACTGAGCCTCAGGGTCCTCAGCCTATCCCCTGGAGCTTGGATACTGTCTGCACTTCAAGGCAGGAATTCT TGAATCCATTACGGTTGGGGATGGGAGGCTGTCTGTGTCCCGACACATAATCTCTGTCTCTTGGACCTGCCACCA TCACTTTCTGGGTCAGGATTGGAATTGGGATGGAATGGGACAGTTGTCTATAAAACTCTAGTGTAAATATTAGCA ACTTCCCCTATTGGGCATGGCAGCTCAAAGGTGGAGTACTAGAGCCTGGCCAAGTGAGGAAAGGAAAGCAGAAAGG

5063/6881 FIGURE 4673

 $\label{thm:cost} $$ $\operatorname{MLEAMAEPSPEDPPTLKPETQPPEKRRRTIEDFNKFCSFVLAYAGYIPPSKEESDWPASGSSSPLRGESAADSD$$ $$ $\operatorname{MDSAPSDLRTIQTFVKKAKSSKRRAAQAGPTQPGPPRSTFSRLQAPDSATLLEKMKLKDSLFDLDGPKVASPLS$$$ $$ $\operatorname{PTSLTHTSRPPAALTPVPLSQGDLSHPPRKKDRKNRKLGPGAGAGFGVLRRPRPTPGDGEKRSRIKKSKKRKLKKAERGDRLPPPGPPQAPPVIQTLKRRKRKRKKKKKWQQW$$$

PCT/US2003/028547

5064/6881 FIGURE 4674

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5065/6881 FIGURE 4675

CCGGCGGCGCCTCAGGTCGCGGGCCCTAGGCCTGGGTTGTCCTTTGCATCTGCACGTGTTCGCAGTCGTTTCC GCCTCGCCTTTCCGGCAGCTCCTGCAGCCGGCACCCCGGCTGTGCACCCGGCCCTTCGGGCTGCTCAGCGTGCGC GCAGGTTCCGAGCGGCCGGGCCTCCTGCGGCCTCGCGGACCCTGCGCCTGTGGCTGTGGCTGCGGCTCGCTG AAAACCCTCCCTAAGATGTCTGGAGGTTGGGAGCTGGAACTGAATGGGACAGAAGCGAAATTAGTGCGGAAAGTT GCCGGGGAAAAATCACGGTCACTTTCAACATTAACAACAGCATCCCACCAACATTTGATGGTGAGGAGGAACCC TCGCAAGGGCAGAAGGTTGAAGAACAGGAGCCTGAACTCACATCAACTCCCAATTTCGTGGTTGAAGTTATAAAG AATGATGACGCAAGAAGGCCCTTGTGTTGGACTGTCATTATCCAGAGGATGAGGTTGGACAAGAAGACGAGGCT GAGAGTGACATCTTCTCTATCAGGGAAGTTAGCTTTCAGTCCACTGGCGAGTCTGAATGGAAGGATACTAATTAT AACACTTTTGCAGATGAGCTGGTGGAGCTCAGCACAGCCCTGGAGCACCAGGAGTACATTACTTTTCTTGAAGAC $\tt CTCAAGAGTTTTGTCAAGAGCCAG\underline{TAG} AGCAGACAGATGCTGAAAGCCATAGTTTCATGGCAGGCTTTGGCCAGT$ GAACAAATCCTACTCTGAAGCTAGACATGTGCTTTGAAATGATTATCATCCTAATATCATGGGGGAAAAAATACC ${\tt AAATTTAAATTATATGTTTTTGTGTTCTCATTTATTATCATTTTTTTCTGTACAAATCTATTATTTCTAGATTTTT$ GTATAACATGATAGACATAAAATTGGTTTATCTCCTCC

MLPLLRCVPRVLGSSVAGLRAAAPASPFRQLLQPAPRLCTRPFGLLSVRAGSERRPGLLRPRGPCACGCGCGSLH TDGDKAFVDFLSDEIKEERKIQKHKTLPKMSGGWELELNGTEAKLVRKVAGEKITVTFNINNSIPPTFDGEEEPS QGQKVEEQEPELTSTPNFVVEVIKNDDGKKALVLDCHYPEDEVGQEDEAESDIFSIREVSFQSTGESEWKDTNYT LNTDSLDWALYDHLMDFLADRGVDNTFADELVELSTALEHQEYITFLEDLKSFVKSQ

GAGCAGTTGGGCCAAGATGCCGGCCGCCGAGGGACCGGTGGGCGACGGCGAGCTGTGGCAGACCTGGCTTCCTAA $\verb|CCACGTCGTGTTCTTGCGGCTCCGGGAGGGACTGAAAAACCAGAGTCCAACCGAAGCTGAGAAACCAGCTTCTTC|\\$ GTCGTTGCCTTCGTCGCCGCCGCCGCAGTTGCTGACGAGAAACGTGGTCTTTGGCCTCGGCGGAGAGCTTTTCCT GTCCCAGTACCAGAGATTGCTTTGCATAAATCCACCCCTGTTTGAAATCTATCAAGTCTTGTTAAGCCCAACACA ACATCATGTAGCACTTATAGGAATAAAAGGACTTATGGTATTAGAATTACCTAAAAGATGGGGGAAGAATTCTGA ATTTGAAGGTGGAAATCAACAGTGAATTGTAGTACCACTCCAGTTGCGGAGAGATTTTTCACCAGTTCCACCTC TCTGACTCTAAAGCATGCTGCATGGTATCCAAGTGAAATCCTGGATCCCCACGTAGTGCTGTTAACATCAGACAA CGTAATCAGAATTTACTCACTACGTGAGCCGCAGACACCCACTAACGTGATAATACTTTCAGAAGCCGAAGAGGA AAGTCTAGTACTCAATAAAGGAAGGGCGTATACCGCATCTCTAGGAGAGACAGCAGTTGCATTTGACTTTGGGCC ${\tt ATTGGCAGCAGTCCCAAAGACTCTATTTGGACAAAACGGCAAAGATGAAGTAGTGGCATACCCACTGTACATCTT}$ ATATGAAAATGGAGAGACTTTCCTGACATACATCAGTCTGTTACACAGCCCTGGAAATATTGGAAAGCTGTTGGG TCCATTGCCCATGCATCCTGCGGCTGAAGATAACTATGGTTATGATGCGTGTGCTGTACTCTGCTTACCCTGTGT CCCCAATATCTTAGTGATCGCTACTGAATCAGGAATGCTGTATCACTGTGTCGTGCTAGAAGGGGAAGAAGAAGA TGACCACACGTCAGAAAAGTCCTGGGATTCCAGGATTGACCTCATTCCTTCTGTATGTGTTTGAATGTGTTTGA GTTGGAGCTTGCTTTGAAACTGGCATCTGGAGAGGATGACCCTTTTGATTCTGACTTTTCTTGTCCAGTCAAACT TCATAGAGATCCCAAGTGTCCTTCAAGATATCACTGTACTCATGAAGCTGGTGTACATAGTGTTGGGCTAACTTG GATTCATAAACTTCACAAATTTCTTGGATCAGATGAAGAAGATAAGGATAGTTTACAGGAACTCTCTACAGAACA GATTGTACCTGACATTCTGGGACCCACGATGATCTGCATCACCAGTACCTATGAATGCCTCATATGGCCGTTATT AAGTACAGTCCATCCAGCGTCTCCCCCTGCTTTGTACTCGAGAAGATGTTGAAGTGGCAGAGTCTCCCCTCCG TGTTCTGGCTGAAACCCCAGATTCCTTTGAAAAGCATATTAGAAGCATTTTGCAACGTAGTGTTGCCAATCCAGC ATTTTTGAAAGCTTCTGAAAAGGACATAGCCCCTCCTCCTGAAGAATGCCTTCAGCTCCTCAGCAGAGCCACCCA GGTGTTCAGAGAGCAGTACATTCTCAAACAGGACTTGGCAAAGGAGGAGATTCAGCGGAGGGTCAAATTATTATG TGACCAAAAAAAGAACAACTAGAAGATCTCAGTTATTGTCGAGAAGAGGGAAAAGTCTGCGGGAAATGGCTGA GCGTTTAGCTGACAAATATGAGGAAGCTAAAGAAAAACAAGAGGATATCATGAACAGGATGAAAAAAACTACTTCA CAGTTTTCACTCTGAGCTCCCAGTTCTCTCTGATAGTGAGCGAGACATGAAGAATTACAGCTGATACCTGA TCAACTTCGACATTTGGGCAATGCCATCAAACAGGTTACTATGAAAAAGGATTATCAACAGCAAAAGATGGAGAA GGTGTTGAGTCTTCCAAAACCCACCATTATTCTCAGTGCCTACCAGCGAAAGTGCATTCAGTCCATCCTGAAAGA GGAGGGTGAACATATAAGGGAAATGGTGAAGCAAATCAATGATATCCGCAATCATGTAAACTTC<u>TGA</u>CACCACCA GGAGCTGACTCACACCTGAACTGAACACCATTGAAGGCTTAAACCCATATTGTAAAACAGGTAGAATTATCTAAT TTATAAAAAGGTGTTTTGATG

MAAAEGPVGDGELWQTWLPNHVVFLRLREGLKNQSPTEAEKPASSSLPSSPPPQLLTRNVVFGLGGELFLWDGED SSFLVVRLRGPSGGGEEPALSQYQRLLCINPPLFEIYQVLLSPTQHHVALIGIKGLMVLELPKRWGKNSEFEGGK STVNCSTTPVAERFFTSSTSLTLKHAAWYPSEILDPHVVLLTSDNVIRIYSLREPQTPTNVIILSEAEEESLVLN KGRAYTASLGETAVAFDFGPLAAVPKTLFGQNGKDEVVAYPLYILYENGETFLTYISLLHSPGNIGKLLGPLPMH PAAEDNYGYDACAVLCLPCVPNILVIATESGMLYHCVVLEGEEEDDHTSEKSWDSRIDLIPSLYVFECVELELAL KLASGEDDPFDSDFSCPVKLHRDPKCPSRYHCTHEAGVHSVGLTWIHKLHKFLGSDEEDKDSLQELSTEQKCFVE HILCTKPLPCRQPAPIRGFWIVPDILGPTMICITSTYECLIWPLLSTVHPASPPLLCTREDVEVAESPLRVLAET PDSFEKHIRSILQRSVANPAFLKASEKDIAPPPEECLQLLSRATQVFREQYILKQDLAKEEIQRRVKLLCDQKKK QLEDLSYCREERKSLREMAERLADKYEEAKEKQEDIMNRMKKLLHSFHSELPVLSDSERDMKKELQLIPDQLRHL GNAIKQVTMKKDYQQQKMEKVLSLPKPTIILSAYQRKCIQSILKEEGEHIREMVKQINDIRNHVNF

5070/6881 FIGURE 4680A

GGTCAGCGGAGGGTTTGCTCCGTCTCTTGGTGAACTTGAACAGAGGCAGAGGCAAAAGCAAAACATTTCTGCGCC CCAGGCGAGCACAGGCAGGTGCCAGGAGCCAGGATGCAAGGATGACGCCTCCGGAGGCCCTGGCCTCACTCCCAC CTGGGCGCTAGGAGCCATCCCGGGGCTCCAGCCAGGAGCCCTGCTGCCCAGGGGCAXTGGCCAAACCTTTCTTCC GACTCCAGAAGTTTCTCCGCCGAACACAGTTCCTGCTGTTXCTTCCTCAXCGGCTGCCTACCTGATGACCGGCAG CCTGCTGCTGCAGCGGGTCCGCGTXGGCTCTCCCACAGGGCCCCCGGGCACCCGGCCCCCTGCAGACCTTGC CAGTGGCCGCCGTGGCGTGGGCTTGCTGGACAGCAGAGCCCTGCACGACCCTCGAGTCAGCCCAGAGC TGCTGCTGGGTGTGGACATGCTGCAGAGCCCCCTGACCCGGCCCCGGCCCCGGCCCCGGTGGCTCCGGAGCCGC GGCCCCGAGGCTGCCAGGCCGCCATCCACAGCCGAGGCACCTACATTGGATGCTTCAGTGACGATGGCCACGAG AGGACTCTGAAAGGAGCTGTGTTTTATGACTTGAGAAAGATGACTGTCTCCCACTGCCAGGATGCGTGTGCTGAĢ GGGCTGGAÅGAGTGTAACCATGAGTGCAAAGGCGAGAAGGGCTCTGTGTGCGGGGCTGTGGACCGGCTCTCCGTG ${\tt GAGAACATCACCATGCCTTCCCCAGCTCCCTGATACAGGCCAATGTGACCGTGGGGGACTTGCTCGGGCTTTTGT}$ TCCCAGAAAGAGTTCCCCTTGGCCATTCTCAGGGGCTGGGAATGCTACTGTGCTTACCCTACCCCCGGTTCAAC CTGCGGGATGCCATGGACAGCTCAGTATGTGGCCAGGACCCTGAGGCACAGAGGCTGGCAGAATACTGTGAGGTC ${\tt TACCAGACACCTGTGCAAGACACTCGTTGTACAGACAGGAGGTTCCTGCCTAACAAATCCAAAGTGTTTGTGGCT}$ ATCTGTGTCAAAACCCACGAGAGTGGCAGGAGGGAGATTGAGATGTTTGATTCAGCCATCCTGCTAATCCGGAAC CCATACAGGTCCCTGGTGGCAGAATTCAACAGAAAATGTGCCGGGCACCTGGGATATGCAGCTGACCGCAACTGG AAGAGCAAAGAGTGGCCGGACTTTGTCAACAGCTACGCCTCGTGGTGGTCCTCGCACGTCCTGGACTGGCTCAAG TACGGGAAGCGGCTGCTGGTGCTCCACTACGAGGAGCTGCGGCGCAGCCTGGTGCCCACGTTACGGGAGATGGTG GCCTTCCTCAACGTGTCTGTGAGCGAGGAGCGGCTGCTCTGCGTGGAGAACAACAAGGAGGGCAGCTTCCGGCGG CGCGGCCGCGCTCCCACGACCCTGAGCCCTTCACCCCGGAGATGAAAGACTTGATCAATGGCTACATCCGGACG GTGGACCAAGCCCTGCGTGACCACAACTGGACGGGGCTGCCCAGGGAGTATGTGCCCAGATGATAGGCCTGGCCC ACGCCGCCCCCCCTGAGTGACGCAATCGCACCACGGGGCTGCGCTCCCCACTCTGATGCTCAGGCCCGTGGC CTCACTGGGACGAACGGTGGGGGGGGCTCACCCTGGTGCTGCCTCCCGCACAAGGAGACCTGGACACAACAGA CACACATCACAAGGCGAACACAAATGGACACACATACCTGGCCACGAACCCACACCTCCTCAGACACTCAGACAC ACAGATACACGTGCGCTCCCTGGGATCCGGGAGGCCCTGGGCTTCCTGTGTGTAGCCCTGGCATAGACTTGCTCG TCAGGGTGTTCGACTCTGGGATGCTGGGCCGGCCAGACATTTATGCTCTGAGCAGCAAGGACCATTGGGATGGAG GGGTTGAGGACTGCCCCCCCCCCCCCCAAGCCAATGCAGACACTGACCTCAAGACCAGCCACACCCAAGTCTGTG CACTGCCCACCACCCCTTCAACCCCTCCTACACCATGCTCCGGGGCCTGGGGCCTCCTTGCCTGGCTTCTTCCT CCAGCTATCCTCAGGGAAGCTGGAGATTCAAGTCATGCCCCAGAAGCAAGGTGTAAGCATGGGGGCGTGGGGAAG AGGGCAGGAGCTGAAGTTCCAGGGGAGCCCAGGACCCCTGGGGACCTGTACACTAGCAGGATGGGTCTTGGGAGT TGGCATGGGGAGATTGTAAGGGCTGTATCTCCGCGATTACTGGTACTGGTGCTCCACCCATAGGGGCCCTGTTCT CTCTGGGGTCCCACACTGGGGTCATGAGAGCTAGTTAGTACTCAGCCTGACCCCTAGGTCTGGTCCTGCCAGCCT GGGATGGGGGTCAATGTATGCTACACATCTTGGGCTCACAAGTGAGGCTGTGGAGGCCAGGAGGTTCAAGTATGG AGGGTAGGAGTGCAACCCAGGAGCAACGCTCAAGGTGGCCGAGATGCAGGGAGGATTGTGGCGATCCGGTTGCAC AGGCCTAGGATAACCCTGGCCAGGCCCCATGGTCCTGCTCTGGGTCAGCTGTCAGGGAGACCTCCCTTCAGCCTG AGCCAAGCTGCATTGGGAGGAGAAGGCAGGGTGAGGGATCTGGGAGGACGTTGAGATATCCTGACCCTCT

5071/6881 FIGURE 4680B

GCTTCCTAGCCTGATGATGGGGAACCCAGAGCCACCCGCTATGAGCACAGGCCGGGGGTGGAAGGCCCAGTAGAG GTGGCCTCCAAATCCTTCCTGGGATTCCCCCAAACCCACACTGATGCGAAGCTGTTCTTGACCCTCCCATAGCAT CAACTCAGTTCAGCTCAAAGCTAGAAACACCAAGGTCTTTGAAAATGTTTATTGGCTCAGGATAGCTTCGGCATC CAATCTGCGAAGGCCCCTGATGGAGCTATTTCTTCCTAGTATCAGGAGCAATTGAGACCCCTCAGGAGTTTCCAC ACTGCTGTGGACGGGATAGCCAGGGCAGACCTGCATCCCAGAGCAAGCCTAGATCCTTGAAAGCAATGTCAGGCG TGGCAGTGGGGAAGCCATGGAGGCTGGGAAGGGCAAAGTGTGGAGAGAGGAGTGACCGGGACTGGAGCCAGGGTC TGGGGAGAGCAACAGCACCAGGCTTTTCCTGGTAGTTGGATTGGTACATTCACTGCTGCCAGGTACCCAGAGATG TCATCTCTCCAGGTAGAGCATCACCAGCTCCTGTGGCCTTGTAGATGACTCTGTACCTCAGTGAAGAGTGCAG GCAGGTACTCCTGGATGTTGATGAGCAAGGAAGAGCAACGGCCCTGTCAGCTGGCAGTGGTCCTCACAGCCTTCA TTGTTTTTCTCCAAGTTAGGTCTCATCTACAGCTCTTAGCTTCTCAGTAAAGAGGATACTCTCCCAACCAGCCAA GGAATAAAAGCTGATCTGTATGTAGGGCAGAAGTGTGGCAAATGCATCAGGAACCGGTTAGAACAGAACAGAACAGAACA ACCCTGACTGTCTACAGATTCCAACTTTAATAGCAAGCCTGTGGAGTTACACAAACCTGTGTTAAAACATGTAAT TTTTATGGATTTCATCTCCCGTTGTGGATCAATTTGGAAAAACCAAAATATGTAATTTTAAAAAAACTAAAACACA TCCTGGTAGTCCCAGTGATGTGTAAATGAGAGAAGAATAGACAGGCTTCCAAACCCTGGGAAGAAGCTGCTT AATTATGTGAACATCTTATAATGAAGTCTCTTGCAGCTAAAATTAGATTTTGAGTGCATGAATCTGTGATAATGT ACCCATTGGAGGTATCTGAAATGTGATGACTCCAAAGGGGTTCATTTCACTATAGGGAGAAATTGATTCGTCTGA CTTCCTATTTATCACCACTCAATATTGGGTGAGTTGGTCTGAACAAGGTGGGGATAAAGTAGAGTGGAAATAATG TAGAGTCGTCAGACTGAAAGGCCAGGTTGTAGTCCCAGCTCTTATCTGCCATCTTGGACAAAGCTTTTCCCATCT TTCCTTTCCCAGCAACCCCCCATTTCTGTTTGGGAATTCATATGATCTGCCAGAGCCTCTCCAGGGGTGGAATAC ATGTCCTGGACTAAGCCAATGACACCTTCCATCTTTCCAGCTATGGTGACTGGGTTAGGTATGATCTTGTGAGTT AAGACAATGAAGCCAGAGGGAATTTCAAGACTTATGGGAATGCTGGGTAGAAGCTGTTTTAATTCCCCTGTTGAA TGTGAAAAAGGTAGTATTCCTGGGTCTTTATGATGACCACCTTGGGCCTTGGGATCATGACCAGGAATCACG TGAAGCTGACACCACTGAAGGGAGAGTTGAGAGGCAGAAAGAGATCAAGTCCTTGGTGAAATTGTTTAAGTACAG

MAKPFFRLQKFLRRTQFLLFFLTAAYLMTGSLLLLQRVRVALPQGPRAPGPLQTLPVAAVALGVGLLDSRALHDP RVSPELLLGVDMLQSPLTRPRPGPRWLRSRNSELRQLRRRWFHHFMSDSQGPPALGPEAARPAIHSRGTYIGCFS DDGHERTLKGAVFYDLRKMTVSHCQDACAERSYVYAGLEAGAECYCGNRLPAVSVGLEECNHECKGEKGSVCGAV DRLSVYRVDELQPGSRKRRTATYRGCFRLPENITHAFPSSLIQANVTVGTCSGFCSQKEFPLAILRGWECYCAYP TPRFNLRDAMDSSVCGQDPEAQRLAEYCEVYQTPVQDTRCTDRRFLPNKSKVFVALSSFPGAGNTWARHLIEHAT GFYTGSYYFDGTLYNKGFKGEKDHWRSRRTICVKTHESGRREIEMFDSAILLIRNPYRSLVAEFNRKCAGHLGYA ADRNWKSKEWPDFVNSYASWWSSHVLDWLKYGKRLLVVHYEELRRSLVPTLREMVAFLNVSVSEERLLCVENNKE GSFRRRGRRSHDPEPFTPEMKDLINGYIRTVDQALRDHNWTGLPREYVPR

GACCTCCGTGCGCCGGAGATCTCTCCAGCACCAGGAGCAGCTGGAGGACAGCAAGGAGCTGCAGCCTGTGGTCAG CCATCAGGAGACCTCTGTAGGGGCCCTGGGGTCCCTGTGCAGACAGTTCCAAAGGAGGCTGCCCCTGAGAACCGT CAACCTCAACCTCCGCGCAGGGCCCTCCTGGAAACGCCTGGAAACCCCAGAGCCAGGTCAGCAGGGCCTCCAGGC TGCAGCTCGCTCAGCTAAGAGTGCTTTGGGTGCCGTGTCCCAGAGAATCCAGGAGTCCTGCCAAAGTGGCACCAA GTGGCTGGTGGAGACCCAGGTGAAGGCCAGGAGGCGGAAGAGGAGCACAGAAGGGCAGTGGATCCCCAACTCA CAGCCTGAGCCAGAAGAGCACCCGGCTGTCTGGAGCCGCCCTGCCCACTCAGCCGCAGACCCCTGGGAGAAGGA GAGCCCCTACTCCTCAACAGAGCCCCTCTGCTCTCCCAGCGAGTCTGACAGTGACCTAGAGCCTGTGGGGGCGGG AATTCAGCATCTCCAGAAGCTGTCCCAAGAGCTAGATGAAGCCATTATGGCGGAAGAGAGTGGTGACATCGTCTC TCTCATTCATGAC<u>TGA</u>GGAAGTGCCTGCAGGAAACAAGCCCTGTCTGACCGCCAAGGCTTCATACTCAAGGATGT CTATECTTCCCCGTGTGCTTCCTGGAAAAAACCCCCGGGAGTCGTCAGTACCCCTGGGCCACTGCTAACAAGCAC GTCTTGGGGAGACCTTGCAGAGGGGGAGAATTGTTCCTTCTGCTTTCCTAGGGGACTCTTGAGCTTAGAAACTCA TCGTACACTTGACCTTGAGCCTTCTATTTGCCTCATCTATAACATGAAGTGCTAGCATCAGATATTTGAGAGCTC AGGCTCTTGAGGGCCCCACTCTCATCCCTCCTTTCCCTACCAGGGACTCGGAGGAAGGCATAGGAGATATTTCCA GGCTTACGACCCTGGGCTCACGGGTACCTATTTATATGCTCAGTGCAGAGCACTGTGGATGTGCCAGGAGGGGTA CAGCATGTGACTTTCCTAGATAACACTGCTTTCTCATAATAAAGACTATTTGCATTTG

MASRWQNMGTSVRRRSLQHQEQLEDSKELQPVVSHQETSVGALGSLCRQFQRRLPLRTVNLNLRAGPSWKRLETP EPGQQGLQAAARSAKSALGAVSQRIQESCQSGTKWLVETQVKARRRKRGAQKGSGSPTHSLSQKSTRLSGAAPAH SAADPWEKEHHRLSVRMGSHAHPLRRSRREAAFRSPYSSTEPLCSPSESDSDLEPVGAGIQHLQKLSQELDEAIM AEESGDIVSLIHD

ATGGATGCCGCTCTGCTCCTGAACGTGGAAGGGGTCAAGAAAACCATTCTGCACGGGGGCACGGGCGAGCTCCCA AACTTCATCACCGGATCCCGAGTGATCTTTCATTTCCGCACCATGAAATGTGATGAGGAGCGGACAGTCATTGAC CTTACCTCCATGCGGGTGCACGAGGTGGCCGAGTTCTGGTGCGACACCATCCACACGGGGGTCTACCCCATCCTA TCCCGGAGCCTGAGGCAGATGGCCCAGGGCAAGGACCCCACAGAGTGGCACGTGCACACGTGCGGCTGGCCAAC ATGTTCGCCTACCACACGCTGGGCTACGAGGACCTGGACGAGCTGCAGAAGGAGCCTCAGCCTCTGGTCTTTGTG ATCGAGCTGCTGCAGGTTGATGCCCCGAGTGATTACCAGAGGGAGCCTGGAACCTGAGCAATCATGAGAAGATG AAGGCGGTGCCCGTCCTCCACGGAGAGGGAAATCGGCTCTTCAAGCTGGGCCGCTACGAGGAGGCCTCTTCCAAG TACCAGGAGGCCATCATCTGCCTAAGGAACCTGCAGACCAAGGAGAGCCATGGGAGGTGCAGTGGCTGAAGCTG GAGAAGATGATCAATACTCTGATCCTCAACTACTGCCAGTGCCTGAAGAAGGAGGAGGAGTACTATGAGGTGCTG GAGGTGTGGAATGAGGCCGAGGCCAAGGCGGACCTCCAGAAAGTGCTGGAGCTGGAGCCGTCCATGCAGAAGGCG GTGCGCAGGGAGCTGAGGCTGCTGGAGAACCGCATGGCGGAGAAGCAGGAGGAGGAGCGGCTGCCGGAAC CCTGCAGAGCCACCACACCATCTGCAGAGCTGTCCGCAGGGCCCCCTGCAGAGCCACACAGAGCCACCC AGACACCCCATGGTAAAAAAAAAAAAAAAAACAATCCCAAGGGTACAGAAGAGCTTATGAATAAAAGTAGTTTT CTCCTCTACCCCTCTCATTCCTTCCGTGCCATGGTTTTAATTGACCCTGTTTTTAATTCTTCTGGTAGTTTTCTC TATTTCCAAGTAATCTGTTTAAATCAGTTTCTAGATTTTACCCCATGTCAATGACAAATGAGGATTTGATGCTCT GATCCTTTCTCATGCCTGATACCCCTCCCTGTCTCCCCATTTTGGATAGTTACATTTGGGGGTCATCTCGGTGAT TTTTGTAACTTTACGCAGGACACTTAGAGCTCTCTAGAATCCCACTGACTTTAGTGGGTCTTGATGTAGGGTGGG CAAGCCCCGACACTGGAGCTTAGCCTGAGAGGGTTCTTG

MDAALLLNVEGVKKTILHGGTGELPNFITGSRVIFHFRTMKCDEERTVIDDSRQVGQPMHIIIGNMFKLEVWEIL LTSMRVHEVAEFWCDTIHTGVYPILSRSLRQMAQGKDPTEWHVHTCGLANMFAYHTLGYEDLDELQKEPQPLVFV IELLQVDAPSDYQRETWNLSNHEKMKAVPVLHGEGNRLFKLGRYEEASSKYQEAIICLRNLQTKEKPWEVQWLKL EKMINTLILNYCQCLLKKEEYYEVLEHTSDILRHHPGIVKAYYVRARAHAEVWNEAEAKADLQKVLELEPSMQKA VRRELRLLENRMAEKQEEERLRCRNMLSQGATQPPAEPPTEPPAQSSTEPPAEPPTAPSAELSAGPPAEPATEPP PSPGHSLQH

GGCCAGCGGGCCGGXGCCCCTXCGXCCTXCCCACCCAGGCGCTGAGCACGCACGXCCGCCGGCCTGGTGTTT CGGXCGGGGCCCGGGACCAGCCGCCCTTCTCCAGGCGCTCCTACTCTCTGGGCATCTGCAGTCCGAGCGGAA GGGGCGGAAXCGTCGGCGACGCCGAGGGAGCAAAGCCCACGATCGGCTTCCCGGGGCAGCGGACGGCTGCCTTC CTCCCGCCCAAACGCACCGCCCAGGAGGGGGGCCGGGCTCGGCGGGTCGGGGGGCCGGGGTCCGAGCTCGG GCCCXGCCTCCGCCAGCTCCTGTGAGCTGCCGAGTGCTAGGCACCCGGGCTCTTCTGGGGGGCTCCAGAA CTAAGCCACCCAGACACCATCATCCCGAAAACCCCAGCCCTTCTCCCATGGCAGGCTACTTGCCCCCCCAAAGGX TACGCCCCTTCGCCCCACCTCCCTACCCTGTCACCCCTGGGTACCCGGAGCCGGCGCTACATCCTGGGXCCCGG GCAGGCGCCAGTGCCCGGCCAGGTACCTGCCCCAGXCTCCCGGCTTCGCCCTCTTCCCCTCGCCTGGCCCCGTGG $\verb|CCTTGGGGTCTGCCCCCTTCTTGCCACTGCCAGGGGTGCCTTCTGGCCTCGAATTCCTGGTGCAGATTGATC| \\$ AGATTTTGATTCACCAGAAGGCTGAGCGAGTGGAAAATGGAAGTACAGGCTCCACCAGGCACCACTTGGCCAC GTGGGGCCCTGCTGGACCTGTGGCTGTGGCACAGACACCAACTTTGAGGTGAAGACXTCGGGATGAATCCCGCAG TGTGGGCCGCATCAGCAAGCAGTGGGGGGGCCTGGTCCGAGAAGCCCTCACAGATGCAGATGACTTTGGCCTACA GTTCCCGCTGGACCXXXTGGAXTXGXXXTGXAGGGTGAAGGCTGTGCTGCTGGGAGCCACATTCCTCATTGACTA CATCACCTCGACCAGAACTCCAGATGGTCACCTGCCCTGGCCCCTCTCTGGGCAGCCCCTTTCCTCCATGTACA CTGCAGGGGACAGXAAGGGGGGCCCCATCCCTACCCTACTCCTGGCCGCCTGXCCCCTGTGGTTCCCAAGGAGG GGTATGTATGAGAGCCGCTCTCCTGCTACCTXCCCACCACTGTCCCAGCAGTCCCTCGGCACACAGGCATATCAG CTTTCACACTTTCCCCATGCACTCTCCCACCCCCTTCCAGGGCCTCTGCTCCAAAGGAGGCCTCTGGAACCCA GGACTCTGGGGTTTTACAAGXAGGGCTGGGGTGTGGAAGGGCAAGCTGCACCAAAGACGGTGGATATAGCCACCG $\verb|CCCCCCGCCGCTGCCTAGCATCTGCTTGGCCAATTAGTTCAGCCTCAGACCATGGCACTTTGAGGGGGTCTCTA|\\$ CCTCCCATCAACAGCTGCAGGGGGACCCCAGTGCCAACTTCCTCTCCCAXCTAGGGCCCTGCCTTCAGCTGGTG GTTACATTCATATAAACTTTGTAACTTTTTGGACATTG

AGGCGTCATCGAGAGTAACTGGAATGAGATTGTTGACAGCTTTGATGACATGAACCTCTCGGAGTCCCTTCTCCG TGATGTGATTGCTCAAGCCCAATCTGGGACTGGGAAAACGGCCACATTTGCCATATCGATTCTGCAGCAGATTGA ATTAGATCTAAAAGCCACCCAGGCCTTGGTCCTAGCACCCACTCGAGAATTGGCTCAGCAGATACAGAAGGTGGT GAAACTGCAGATGGAAGCTCCCCACATCATCGTGGGTACCCCTGGCCGTGTGTTTGATATGCTTAACCGGAGATA CCTGTCCCCCAAATACATCAAGATGTTTGTACTGGATGAAGCTGACGAAATGTTAAGCCGTGGATTCAAGGACCA GATCTATGACATATTCCAAAAGCTCAACAGCAACACCCAGGTAGTTTTGCTGTCAGCCACAATGCCTTCTGATGT TATCCGCCAGTTCTACATCAACGTGGAACGAGAGGAGTGGAAGCTGGACACACTATGTGACTTGTATGAAACCCT AGATTTCACTGTATCCGCCATGCATGGAGATATGGACCAAAAGGAACGAGACGTGATTATGAGGGAGTTTCGTTC TGGCTCTAGCAGAGTTTTGATTACCACTGACCTGCTGGCCAGAGGCATTGATGTGCAGCAGGTTTCTTTAGTCAT CAACTATGACCTTCCCACCACAGGGAAAACTATATCCACAGAATCGGTCGAGGTGGACGGTTTGGCCGTAAAGG TGTGGCTATTAACATGGTGACAGAAGAGACAAGAGGACTCTTCGAGACATTGAGACCTTCTACAACACCTCCAT ${\tt TGAGGAAATGCCCCTCAATGTTGCTGACCTCATC} \underline{{\tt TGA}}{\tt GGGGCTGTCCTGCCACCCAGCCCAGCCAGGCCTCAAT}$ TGAATAAATGTCACTTTTTGAGGCAAAAGAAGG

MSASQDSRSRDNGPDGMEPEGVIESNWNEIVDSFDDMNLSESLLRGIYAYGFEKPSAIQQRAILPCIKGYDVIAQ AQSGTGKTATFAISILQQIELDLKATQALVLAPTRELAQQIQKVVMALGDYMGASCHACIGGTNVRAEVQKLQME APHIIVGTPGRVFDMLNRRYLSPKYIKMFVLDEADEMLSRGFKDQIYDIFQKLNSNTQVVLLSATMPSDVLEVTK KFMRDPIRILVKKEELTLEGIRQFYINVEREEWKLDTLCDLYETLTITQAVIFINTRRKVDWLTEKMHARDFTVS AMHGDMDQKERDVIMREFRSGSSRVLITTDLLARGIDVQQVSLVINYDLPTNRENYIHRIGRGGRFGRKGVAINM VTEEDKRTLRDIETFYNTSIEEMPLNVADLI

GAGCTAGCTTTGCAATATGGCGGCCGAGGCGGACGGACCGCTTAAACGGCTGCTCGTGCCGATTCTTTTACCTGA GAAATGCTACGACCAACTTTTCGTTCAGTGGGACTTGCTTCACGTCCCTGCCTCAAGATTCTCCTCAGCAAAAGG CCTGGGGCTGGCCATTGTGGCTGGCTCACTTCTAGTAAAGCTGCCCCAGGTGTTTAAAATCCGGGGAGCCAAGAG TGCTGAAGGGTTGAGTCTCCAGTCTGTAATGCTGGAGCTAGTGGCATTGACTGGGACCATGGTCTACAGCATCAC TAACAACTTCCCATTCAGCTCTTGGGGTGAAGCCTTATTCCTGATGCTCCAGACGATCACCATCTGCTTCCTGGT CATGCACTACAGAGGACAGACTGTGAAAGGTGTCGCTTTCCTCGCTTGCTACGGCCTGGTCCTGCTGCTGCTTCT CTCACCTCTGACGCCCTTGACTGTAGTCACCCTGCTCCAGGCCTCCAATGTGCCTGCTGTGGTGGTGGGGAGGCT TCTCCAGGCAGCCACCAACTACCACAACGGGTACACAGGCCAGCTCTCAGCCATCACAGTCTTCCTGCTGTTTTGG GGGCTCCCTGGCCCGAATCTTCACTTCCATTCAGGAAACCGGAGATCCCCTGATGGCTGGGACCTTTGTGGTCTC CTCTCTCTGCAACGGCCTCATCGCCGCCCAGCTGCTCTTCTACTGGAATGCAAAGCCTCCCCACAAGCAGAAAAA GGCGCAGTAGAGCCAGCTACTGGAGTCATTCCGTTTCCACTCATTCACCCAACCTCAGGGTTCTCCCCATCTGAG ${\tt CCAGCCTGCTGGTGTGACTTACTCATCCTCCATTCCTCTGCACTTGCAGACTTTCTGAGCCAGGGTTTTCTTTTA}$ GTGGAAACAAATGGTTGATGGATCCAGATCCTTAGAAAAGGAGAGGATGGGGGTAGAGTCTCCCAAGCCAAAATT TTGACATTTGAGTGCTTTCGTAAGCCCTGTACATGTACTATTAATTCAGTCATTCAGCCAAGCCTCCTCCTAG CAGCAATTTCCAGCTGTTTAACACTATCCTGGGCAAATGTTTTACCCTGTCCTCCAGCCTCCCTGCTTCCCTTCT TGGGGTGAGGAGGTTCCTGCTCTGGCAGGTCTAGGCGGAAGGGAGTGGAGATGGGGCTGGTTGCTGCAGTGA

MAAEADGPLKRLLVPILLPEKCYDQLFVQWDLLHVPCLKILLSKGLGLGIVAGSLLVKLPQVFKIRGAKSAEGLS LQSVMLELVALTGTMVYSITNNFPFSSWGEALFLMLQTITICFLVMHYRGQTVKGVAFLACYGLVLLVLLSPLTP LTVVTLLQASNVPAVVVGRLLQAATNYHNGYTGQLSAITVFLLFGGSLARIFTSIQETGDPLMAGTFVVSSLCNG LIAAQLLFYWNAKPPHKQKKAQ

TGCCACAAACGCTGAGCCCAGGTGGGAGAGGTCTGGCCTATCCGCGCCTGGCAGCTGTCGGAACTCCGGAGACCA GGTCCCCCAGTCAGTAGGCCTCAGAACACCTCTTCAGTGCCGGGGCACCAGACAGCGGATTTTGCATTCGACTCT CCCCAAAGTGTGCCGAACAGGTTGGAAGCAAAGGCTCCGGTTTAAGCTCTGGGCTTGGGGATAAAATACACTTTT TAAGGACCCAAGTTCCTCGGCAACGACTCCAGACTGGGAAGACCTTTCCATTTTCAGGATCGACGCTTCACGTTG $\tt AGGGGAGGCATTCAGGACGCCCTCTTAAGGCTTCTCCCAACCC \underline{ATC} \tt GCGCTACCAGGCTCCTCACAGGACCAGG$ GGAGCCCCGCGCCCCCGGGACGCTGCCCCTGGAGAAGGTGAAGCGGCCGATGAACGCGTTCATGGTGTGGAGCT $\tt CCGCTCAGCGCCAGATGGCGCAGAACCCCAAGATGCACAACTCCGAGATCTCCAAGCGCCTGGGCGCGC$ AGTGGAAGCTGCTGGACGACGACAAGCCGCCCTTCGTGGAGGAGGCCAAGCCGCTCCGCCCCGACACCTGC GCGACTACCCCGACTACAAGTACCGGCCTCGGCGCAAGGCCCAAGAGCTCGGGCGCCGGACCTTCCCGCTGCGGAC AGGGAAGAGGCAACCTGGCCAGCGGCCGCCCCTCTGGGGGCCCGGGTACGCGACCACCCAACCGAGCAGAGGCT TTGGGTACAGACCCCCAGCTACTCGACAGCCTACCTGCCAGCTATGGCTCTTCCCACTGCAAACTGGAAG CCCCCTCACCGTGCTCCCTCAGAGTGACCCTAGGCTCCAGGGGGAACTGCTGCCCACCTATACCCACTACC TGCCCCTGGCTCTCCCATACAACCCTCCCTTGCTGGTGCCCCCATGCCCCTAACCCACCTC<u>TAA</u>CCCT CATGGACGCAGACCTCACGGGACGGCCTCATCCTCTTTTTTAATCCAGCAGCATCCCCTACCCCAGGCTGTCA ACCCTTTCTCCTGTTGGACTACAGTTCAGAGGCAGCCTGCAGTCCTCCCATGATAGCCAGGGAGAGCCGCACAAC ATACAATTATATTTTTGGTAGTATTAAACAGTTTTGTATTATTC

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GCCGCTGAGAAAGCGCAGAGAAGGCGGGCCCCGTCTGAGGTCTGGCAGTCAGAGACAGCCGGGCGCCCACGGCCC GAGCGCCCACGCACCACCCCCGCACTCCTGGAGCGCCCCAAGCTTTCCAACGCCATGGCCAGGCGCTGCA ${\tt CCGGCACATTATGATGGAGCGGGAGCGCAAGCGGCAGGAGGAAGAAGAGGTGGATAAGATGATGGAACAGAAGAT}$ GAAGGAAGAACAGGAGAAGAAAAAAGGAGATGGAAGAGAATGTCATTAGAGGAGACCAAGGAACAAAT TCTGAAGTTGGAGGAGAAGCTTTTGGCTCTACAGGAAGAAGCACCAGCTTTTCCTGCAGCTCAAGAAAGTTTT ACATGAGGAAGAAAAACGGAGGCGAAAGGAACAGAGTGACCTGACCACCCTAACATCAGCTGCATACCAGCAGAG CCTGACTGTTCACACAGGAACTCATCTCCTCAGCATGCAGGGGAGCCCTGGAGGACACAATCGCCCAGGCACCCT CATGGCAGCTGACAGAGCCAAACAATGTTTGGACCCCAAGTGCTTACGACCCGGCACTACGTGGGCTCAGCAGC TGCTTTTGCAGGGACACCAGAGCATGGACAATTCCAAGGCAGTCCTGGTGGTGCCTATGGGACTGCTCAGCCCCC ACCTCACTATGGGCCCACACAGCCAGCTTATAGTCCTAGTCAGCAGCTCAGAGCTCCTTCGGCATTCCCTGCAGT GCAGTACCTATCTCAGCCACAGCCACAGCCCTATGCTGTGCATGGCCACTTTCAGCCCACTCAGACAGGTTTCCT CCAGCCTGGTGGTGCCCTGTCCTTGCAAAAGCAGATGGAACATGCTAACCAGCAGACTGGCTTCTCCGACTCATC CTCTCTGCGCCCCATGCACCCCCAGGCTCTGCATCCAGCCCCTGGACTCCTTGCTTCCCCCCAGCTCCCTGTGCA GATGCAGCCAGCAGGAAAGTCGGGCTTTGCAGCTACCAGCCAACCTGGCCCTCGGCTCCCCTTCATCCAACACAG CCAGAACCCGCGATTCTACCACAAGTGACCATCAGATTATATCTTCAACACCACACCCCCACCCCATCGTGGGT GAGGGTATCCCCTGTGTGTCCCAGGCCAATAAAATCTACCTGCCA

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MADDLDFETGDAGASATFPMQCSALRKNGFVVLKGRPCKIVEMSTSKTGKHGHAKVHLVGIDIFTGKKYEDICPS
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AMAK

GGCCGGGAGAGTAGCAGTGCCTTGGACCCCAGCTCTCCTCCCCCTTTCTCTCTAAGGATCGCCCAGAAGGAGAAC TCCTACCCTGGCCCTACGGCCGACAGACGGCTCCATCTGGCCTGAGCACCCTGCCCCAGCGAGTCCTCCGGAAA GAGCCTGTCACCCCATCTGCACTTGTCCTCATGAGCCGCTCCAATGTCCAGCCCACAGCTGCCCTGGCCAGAAG GTGATGGAGAATAGCAGTGGGACACCCGACATCTTAACGCGGCACTTCACAATTGATGACTTTGAGATTGGGCGT CCTCTGGGCAAAGGCAAGTTTGGAAACGTGTACTTGGCTCGGGAGAAAAAGCCATTTCATCGTGGCGCTCAAG GTCCTCTTCAAGTCCCAGATAGAGAAGGAGGCGTGGAGCATCAGCTGCGCAGAGAGATCGAAATCCAGGCCCAC CTGCACCATCCCAACATCCTGCGTCTCTACAACTATTTTTATGACCGGAGGAGGATCTACTTGATTCTAGAGTAT GCCCCCGCGGGGAGCTCTACAAGGAGCTGCAGAAGAGCTGCACATTTGACGAGCAGCGAACAGCCACGATCATG GAGGAGTTGGCAGATGCTCTAATGTACTGCCATGGGAAGAAGGTGATTCACAGAGACATAAAGCCAGAAAATCTG ACAATGTGTGGCACCCTGGACTACCTGCCCCCAGAGATGATTGAGGGGCGCATGCACAATGAGAAGGTGGATCTG TATCGCCGCATCGTCAAGGTGGACCTAAAGTTCCCCGCTTCTGTGCCCACGGGAGCCCAGGACCTCATCTCCAAA CTGCTCAGGCATAACCCCTCGGAACGGCTGCCCCTGGCCCAGGTCTCAGCCCACCCTTGGGTCCGGGCCAACTCT CGGAGGGTGCTCCCTCTGCCCTTCAATCTGTCGCCTGATGGTCCCTGTCATTCACTCGGGTGCGTGTGTTT GTATGTCTGTGTATGTATAGGGGAAAGAAGGGGATCCCTAACTGTTCCCTTATCTGTTTTCTACCTCCTCTTTGT TTAATAAAGGCTGAAGCTTTTTGT

MAQKENSYPWPYGRQTAPSGLSTLPQRVLRKEPVTPSALVLMSRSNVQPTAAPGQKVMENSSGTPDILTRHFTID DFEIGRPLGKGKFGNVYLAREKKSHFIVALKVLFKSQIEKEGVEHQLRREIEIQAHLHHPNILRLYNYFYDRRRI YLILEYAPRGELYKELQKSCTFDEQRTATIMEELADALMYCHGKKVIHRDIKPENLLLGLKGELKIADFGWSVHA PSLRRKTMCGTLDYLPPEMIEGRMHNEKVDLWCIGVLCYELLVGNPPFESASHNETYRRIVKVDLKFPASVPTGA QDLISKLLRHNPSERLPLAQVSAHPWVRANSRRVLPPSALQSVA

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5093/6881 FIGURE 4702

 ${\tt MEVQAPPGTTIGHVLQTWHPFLPKFSIQDADRQTVLRVVGPCWTCGCGTDTNFEVKTRDESRSVGRISKQWGGLVREALTDADDFGLQFPLDLDVRVKAVLLGATFLIDYMFFEKRGGAGPSAVTS}$

GAGACCATGGCGGGTAGCAGCACTGGGGGCGGTGGGGTTGGGGAGACGAAGGTGATTTACCACCTGGATGAGGAA GAGACTCCCTACCTGGTGAAGATCCCTGTCCCCGCCGAGCGCATCACCCTCGGCGATTTCAAGAGCGTCCTGCAG ATGGCCCCTCCAGTCCATGAGCCTCGGGCAGAACTGGCGCCTCCAGCCCCACCTTTACCTCCTTTGCCACCCGAG CCTGAGACAGAAACCGAGTCAGTGGTCACTGAGGCGGGAGCGCCTCGCAGGAGAGACAGCAGTGAGCATGGC GCTGGGGGCCACAGGACTGGTGGCCCCTCAAGGCTGGAGCCCCCCTGGCCGGATACGAGAGCTCCTCTACCCTC ATGACCAGCGAGCTGGAGAGTACCAGCCTGGGGGACTCGGAGGAGGACACCATGAGCAGGTTCAGCAGCTCC AGGACGTCATCCTTCAGCAGCGTCACAGATTCCACAATGTCTCTCAATATCATCACAGTCACGCTAAACATGGAG AAGTACAACTTCCTGGGTATCTCCATTGTTGGCCAGAGCAATGAGCGGGGGAGACGGAGCATCTACATTGGCTCC ATCATGAAGGGTGGGGCTGTGGCGGCCGACGGGCGCATTGAGCCAGGGGACATGCTTTTGCAGGTGAATGACATG AACTTTGAGAACATGAGCAACGATGACGCTGTGCGGGTGCTGAGGGACATTGTGCACAAGCCTGGCCCCATTGTG CTGACTGTGGCCAAGTGCTGGGATCCCTCTCCTCAGGCCTATTTCACTCTCCCCCGAAATGAGCCCATCCAGCCA ATTGACCTGCTGCCTGGGTGTCCCATTCCGCGGCTCTGACTGCCACCTTCCCAGCCTATCCAGGTTCCTCC ATGAGCACCATTACATCTGGATCGTCTTTGCCTGATGGCTGTGAAGGCCGGGGTCTCTCCGTCCATACGGACATG GCATCGGTGACCAAGGCCATGGCAGCTCCAGAGTCTGGACTGGAAGTCCGGGACCGCATGTGGCTCAAGATCACC ATCCCTAATGCCTTTCTGGGCTCGGATGTGGTTGACTGGCTCTACCATCACGTGGAGGGCTTTCCTGAGCGGCGG GAGGCCCGCAAGTATGCCAGCGGGCTGCTCAAAGCAGGCCTGATCCGACACACCGTCAACAAGATCACCTTCTCT GAGCAGTGCTATTACGTCTTCGGAGACCTCAGTGGTGGCTGTGAGAGCTACCTAGTCAACCTGTCTCAATGAC AACGATGGCTCCAGTGGGGCTTCAGACCAGGATACCCTGGCTCCTCTGCCTGGGGCCACCCCCTGGCCCTGCTG CCCACTTCCCTACCATACCCTGCCCCACACCCCTACAGCCCGCAGCCTCCACCCTACCATGAGCTTTCATCT TACACCTATGGTGGGGCAGTGCCAGCAGCATAGTGAGGGCAGCCGGAGCAGTGGGTCGACACGGAGTGAT GGGGGGCAGGGCCCCAGGAGCCCCAGGAGCCCCAAGTCCAAGTCCGGCAGTGGCAGTGAGTCTGAG CCCTCCAGCCGAGGGGGCAGCCTTCGGCGGGGTGGGGAAGCAAGTGGGACTAGCGATGGGGGCCCTCCTCCATCC GCCCTCCCCTACAACCCCATGATGGTGGTCATGATGCCCCCACCTCCACCTCCAGTCCCTCCAGCAGTGCAGCCT GCCATGGGCAATCCCAGCGAGTTCTTTGTGGATGTTATGTAGCCCACTGTGGGGCCAGGCTGGGCCGGGCGCTCC TGGTGTGTGACTGGGTGTCCTGGCCGTCATGTGCTTGCTCTTACAGTGCCTGGGCTCAGCCTACCAGCTGCTGCC ATACAGGAGATTGTGGCCACTGTGACTCTCACCAGCAGTGCCTGGTTCCTCCCCCTTCCCTCAGGGGTAGACAAG GGACCTTTGATTATTTTTAGCTTTGTTTTTTTATAAGCCTTTTTGGGGGGTTAAAATAGAGTTTCTTACATTTTTG GGACTTTTTTAATAGGCATTTCCTCTTTT

MAGSSTGGGGVGETKVIYHLDEEETPYLVKIPVPAERITLGDFKSVLQRPAGAKYFFKSMDQDFGVVKEEISDDN ARLPCFNGRVVSWLVSSDNPQPEMAPPVHEPRAELAPPAPPLPPLPPERTSGIGDSRPPSFHPNVSSSHENLEPE TETESVVSLRRERPRRDSSEHGAGGHRTGGPSRLERHLAGYESSSTLMTSELESTSLGDSDEEDTMSRFSSSTE QSSASRLLKRHRRRRKQRPPRLERTSSFSSVTDSTMSLNIITVTLNMEKYNFLGISIVGQSNERGDGGIYIGSIM KGGAVAADGRIEPGDMLLQVNDMNFENMSNDDAVRVLRDIVHKPGPIVLTVAKCWDPSPQAYFTLPRNEPIQPID PAAWVSHSAALTGTFPAYPGSSSMSTITSGSSLPDGCEGRGLSVHTDMASVTKAMAAPESGLEVRDRMWLKITIP NAFLGSDVVDWLYHHVEGFPERREARKYASGLLKAGLIRHTVNKITFSEQCYYVFGDLSGGCESYLVNLSLNDND GSSGASDQDTLAPLPGATPWPLLPTFSYQYPAPHPYSPQPPPYHELSSYTYGGGSASSQHSEGSRSGSTRSDGG AGRTGRPEERAPESKSGSGSESEPSSRGGSLRRGGEASGTSDGGPPPSRGSTGGAPNLRAHPGLHPYGPPPGMAL PYNPMMVVMMPPPPPPVPPAVQPPGAPPVRDLGSVPPELTASRQSFHMAMGNPSEFFVDVM

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5098/6881 FIGURE 4707

GGCCCCCCCCCTAGAAATGCTCGAACCAGGACGGCTCCTGGAGTCCTCGCGCCCTCGCAGAAGGACTACGG GCCCCGGCGACCCCGGGGGCGGGCTTCCGGCGCGCTGCCTTGTGGGCACGGTAGTTCCGCCGGGTCTGGCTTCC GCCTGCCGAGCCGCCCGGACCGCAGGCCGGACTACACTTCCCGTCGGCCCGCCTGCTCTCCCGATGCCGCCTTG GCGCGAGACGTTGGCAAGCAGAGTGTCTCCAAG<u>ATG</u>CCCGCTTGGGGAAGGAGGCGTCTTGGCCCGGGCAGCAGT GGCGGCAGCGCCCGAGAGAGGGTGAGCTTGTCGGCCACAGACTGCTACATTGTGCATGAGATCTACAATGGGGAG AATGCCCAAGACCAGTTTGAGTACGAGCTGGAGCAGGCCCTGGAAGCCCAGTACAAGTACATTGTGATTGAGCCC ACCGCCTGCCTCTTCACCCCGTTGGCGCTGCCCTTAGATTATTCCCACTACATTTCCCTGCCCGCTGGTGTGCTG AGCCTGCCTGCTGCACCCTCTATGGGATCTCCTGGCAGTTTGACCCTTGCTGCAAGTACCAAGTGGAGTACGAC CTGCACAGAAAGAGACTGCACAACACGATAGCACTGGCCGCCCTGGTGTACTGTTAAAGAAGATTTACGAACTC TCGCCACACTCTGTGAGGCAGCAGAGCCTGGGCAGGTGTTTGGCTTAGTATTTGTTATTTTTAAAAAATAACAGA TCACGGGTGTACCCAGGGTTTTTCAGCTCATTACACTAAGATGTGGATTTCCATAACCCAAGAGGGGGGTCTGAG GCTGTGGAAGTCCGACTGGCAGTGGAATGCTGATGGAGGCAGACGCTGCCGAGGGGGTGTGGACGTGCTTTGGG GGAGGTCTTTAAGTCTATTGTTTAACTGTACCATCCAGAGCCCACCAGAAGCTATTGATCATTAAAATTATGAGA ATTTCAACTCC

MAAWGRRRLGPGSSGGSARERVSLSATDCYIVHEIYNGENAQDQFEYELEQALEAQYKYIVIEPTRIGDETARWI TVGNCLHKTAVLAGTACLFTPLALPLDYSHYISLPAGVLSLACCTLYGISWQFDPCCKYQVEYDAYKLSRLPLHT LTSSTPVVLVRKDDLHRKRLHNTIALAALVYCVKKIYELYAV

5101/6881 FIGURE 4710A

AGGCCAAGTCCTGTATCTGCCATGTCTGTGGCGTCCACCTCAACAGGCTGCATTCCTGCCTCTACTGTGTCTTCT TCGGCTGTTTCACAAAGAAGCATATTCACGAGCATGCGAAGGCGAAGCGGCACAACCTGGCCATTGATCTGATGT ACGGAGGCATCTACTGTTTCTGTGCCAGGACTACATCTATGACAAAGACATGGAAATAATCGCCAAGGAGGAGC TGCTGAAGCACAACCCGAAAAGGAGAAAGATCACCTCGAACTGCACCATAGGTCTGCGTGGGCTGATCAACCTTG GGAACACATGCTTCATGAACTGCATCGTGCAGGCCCTGACCCACACGCCACTTCTGCGGGGACTTCTTCCTGTCTG ACAGGCACCGCTGTGAGATGCAGAGCCCCAGCTCCTGTCTGGTCTGTGAGATGTCCTCACTGTTTCAGGAGTTTT ACTCTGGACACCGGTCCCCTCACATCCCGTATAAGTTGCTGCACCTGGTGTGGACCCACGCGAGGCACCTAGCAG GCTACGAGCAGCAGGACGCCCACGAGTTCCTCATCGCGGCCCTGGACGTGCTCCACCGACACTGCAAAGGTGATG ACAATGGGAAGAAGGCCAACAACCCCAACCACTGCAACTGCATCATAGACCAGATCTTCACAGGCGGGTTGCAGT CAGACGTCACCTGCCAAGTCTGCCATGGAGTCTCCACCACCATCGACCCCTTCTGGGACATCAGCTTGGATCTCC CGGGAACCACCACGCTCACGGACTGCCTGCGACGATTCACCAGACCAGAGCACTTGGGCAGCAGCGCCCAAGATCA AGTGCAGCGGTTGCCATAGCTACCAGGAGTCCACAAAGCAGCTCACTATGAAGAAACTGCCCATCGTAGCCTGTT TTCATCTCAAACGATTTGAACACTCAGCCAAGCTGCGGCGGAAGATCACCACGTATGTGTCCTTCCCCCTGGAGC TGGACATGACCCCTTTCATGGCCTCCAGCAAAGAGAGCAGGATGAATGGACAGTACCAGCAGCCCACGGACAGTC GCTTTATCCGGCAGCACAAAGACCAGTGGTTCAAGTGTGACGATGCCATCATCACCAAGGCCAGCATCAAGGACG TCCTGGACAGCGAAGGGTACTTGCTGTTCTATCACAAACAGTTCCTGGAATACGAGTAGCCTTATCTGCAGCTGG CGCCGCCTCCCGGCCTGGTGACACCACCTCCCATGCAGATGTGGCCCCTCTGCACCTGGGACCCATCGGGTCGG AGGAGCAGCGTACACCGTCACCAGAACATCTCTTGTGTCATGACATGGGGGGTGCAACGGGGGCCTCACAGCACA GAGTGACCGCTGCCTGCCTTCCCCAGCACTCGGTGTGGAAAGGCCCCTACCTGCTGTAAGATTATGGGTCCATG AAAGCAGTAAGCTGGACACAGAGGTGTAGTGTGCGGGACAGAGGGCCTTGCAGATGCCTTTCTGTTGGTGTTTTA GTGTTAAAATACGGAGAGTATGGAACTCTTCACCTCCATTTTCTCAGCGGCTGTGAAGCAGCCTCCTAGCTTCGG AAGTACGGACACTACGTCGCGTTTTCAAGCGTGTCTGTTCTGCAGGTAACAGCATCAAGCTGCACGTGGAAGCAT CTCGCGGTTTTCTAGAAACAGGCATTTTCTTATCCCTCTCCCGCTCCTTTTTCCACAAAGGTGAATTTCATAAAT GTAATACTAGTAAAGTGAATGAATTACTGAGTTTATACAGAAATTTAGGTAACTTCTCCTTTAGTCTCAAGAGCG CTGCTGGTGGCTGGCAGTGGCCAGCGGAGAGTTGTGCTGCAGCTCATACGGTGTGTCTCTCATCTCAGTC TGGAGTAAATGCAGTGTCTGCCGGTGTCTGATGGGTTCTGTCCCTCGTATTTTCTTTGCCTTCTATCCCATTGCC TGGCTACCGCTGCCTGGCAGCCAAGGGTGTTGGTCGCGAAGCTGGAGTGGCCTCTGGTGGAGCCTGCATCTTGTC TCGTCTGCCTCTGCTTTACATTTGGTGTACTTTCGGGCGTGGTGGCAGTAAAATGACACCGTGATTGAGCTTGTC AGCAGAGCTGAAAGAGAAAGTAGAAGGATGTGCATTGTTTCTTGTAAGATATCTTGCATGTATCTGTGTATTCAA ATTCAAACAGAGATGGTTTGTCCATTTGTCCACTGAGAAATTAGAAACTAGGGACAAGGGGGGAAAAAGTACTG AAATACAGTTTATGAAGCAAGTGTGTCTCGGGCTGTGCTTGTCCCAGGAGCCCCAGCAGCATCTGAACTGAGGCT TCTTCAGTCCTGCAGGAACAGGATCATCTGTCTCAGCGGTGGGCAGATGTTTTCATAGACAGCCAGGGAGTAAAC ACTGTTGGCTCTGTGGGCTGTATGGTCTCTGCCATAAATAGTACAGAGATGTGGCTGTGTCTAGTACAACTTTTA GGAGGGGTAGTGACAGTGCCAGCTGCTCACTGCTCAGTGTGGAAAACACAGGACTTGGCAATCACAGCCCG CAGAACCATCATGTGTGGCAGAAGCCTGAGGGATGCGGTTTCTTGCCCACGTGCTCTGTTCATTTTCTGTTGTTT TTCTGCACTTAAAGAATTCACATGGAAGCATGTTTTATAAAATGAATTACCAGAGAAACAGAGATGGGCCGAGAT TTTCAGAAATGGTCCCATGTGACCAAGTTCTGCTGTTTGGGTGACAGTGCTTTGAAGATCTCCTTTGAGGATGTG CAACCTCCACCTCCTGGGTTCAAGCAGTTCTCGTGCCGCAGCCTCCCAAGTAGCTGGGACTACAGGCATGCACCA ${\tt CCACGCCAGGCTAATTTTTGTATTTTTAGTAGAGATGGGGTTTCACCATGTCTCAAACTCCTGACCTCAGGCGAT}$

5102/6881 FIGURE 4710B

CCACCCACCTCAGCGTCCCAAAGTGCTGGGATTATAGGCGTGAGCCACCGCACCTGGCCTATGAGTGGTCTTTTA ATTAGGAACAATCTAATGGAAAGGAGAGTTGACTGAAGTTGGCCCACAGGATTGTGAGCTGGGCAGTGCCTTCA TGAAGGCTTGCCACCTTGGGACGCCCCAGTTTACTGGGGTGTCTTGCGGAGTGCAGAAGGCTTTCTGGCAGCTGC $\tt CTGGGTTTGGCCAGACCCTGCCTCCCGCCGGCCAACCCCTAGTCCCCTTCCTGTCTCCACTTGCATTCAG$ TAAACTTTCGTATCCAAGTTAGTCCCCCTTATTCCACTGTGGCATTGCCGTTCTAAGCAGTTACCTGATGCCTGC TGCTGAAGAGCTGCTCACAGGAGGCGGCGGCGCCCTGGCACTGCCCCTTGCATTAGGTCTTGTTTTGATGTGT ${\tt TCTTGTGAATTTACTTTGTCAGAACAAAATATTTACGCGTTGGGTTCAGGAATTTCTTTTAGCTCCCCATCTGGC}$ TGTGAAATTCAGGAAACCTCCCGTTGCCTAGTAATCACCCCATGTAGGTGTACATTGTGACAAAGTGCATCTGAC ${\tt CACTAAGGGGCCCCCTTGGTGACCCCAGCACATTCACAGCAGTGTTAAAATGGCCTGCATTTTGGAGATGCTGGC}$ TGGCCTTTCAGTGCCTCCCAGGAAGACACATGGCCTTTCCCTCTTCAGATGCCTGAAGGGAGTGCTTTGAGGCAG TGGGCTTCGTGGTGAGCACTGCAGCCTCCCTGGGCATTCCCTCCAGCGCCAGCACCACTGCAACATATAGACCTG AGTGCTATTGTATTTTGGCTTGGTGTATGCTCTTCATTGTGTAAAATTGCTGTTCTTTTGACAATTTAAGTGA TTGTTTTGTTACTGTAAGTTTGAAAATAAAAATGAAGAAAAAATTCCAATGACTGTGCTGTGGTTGGAGACTT TATTTACCAAGATGTTTACTCTTCCCTTTCCCTTTCGATTTTGAGGAGCTGTGTCACTCCTCCCCCCCAGTGC TTTGTAGTCTCTCTATGTCATAATAAAGCTACATTTTCTCTG

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5103/6881 FIGURE 4711

MVSRPEPEGEAMDAELAVAPPGCSHLGSFKVDNWKQNLRAIYQCFVWSGTAEARKRKAKSCICHVCGVHLNRLHS CLYCVFFGCFTKKHIHEHAKAKRHNLAIDLMYGGIYCFLCQDYIYDKDMEIIAKEEQRKAWKMQGVGEKFSTWEP TKRELELLKHNPKRRKITSNCTIGLRGLINLGNTCFMNCIVQALTHTPLLRDFFLSDRHRCEMQSPSSCLVCEMS SLFQEFYSGHRSPHIPYKLLHLVWTHARHLAGYEQQDAHEFLIAALDVLHRHCKGDDNGKKANNPNHCNCIIDQI FTGGLQSDVTCQVCHGVSTTIDPFWDISLDLPGSSTPFWPLSPGSEGNVVNGESHVSGTTTLTDCLRRFTRPEHL GSSAKIKCSGCHSYQESTKQLTMKKLPIVACFHLKRFEHSAKLRRKITTYVSFPLELDMTPFMASSKESRMNGQY QQPTDSLNNDNKYSLFAVVNHQGTLESGHYTSFIRQHKDQWFKCDDAIITKASIKDVLDSEGYLLFYHKQFLEYE

5104/6881 FIGURE 4712A

GTGGTGTCGGTGTCGGCAGCATCCCCGGCGCCCTGCTGCGGCCGCGAGCCTCGGCCTCTGTCTCCCCCTT CCAGCCCTCACCTCCACGCGGGACCGCTCGCGCCAGTCAACTCCGCGCACGTTGCCCCTGCTTGGCAGCCAATAA AAGGGGGCTGAGGAAATACCGGACACGGTCACCCGTTGCCAGCTCTAGCCTTTAAATTCCCGGATCGGGCACCTC AATCGCAGTCCTCCGGCGACCCCGAACTCCGCCCCGGAGCCTCAGCCCCTGGAAAGTGATCCTGGCATCCGAGAG CCAAGATGCCGGCCCACTTGCTGCAGGACGATATCTCTAGCTCCTATACCACCACCACCACCACCATTACAGCGC CTCCTTCCAGGGTCCCGCAGAATGGAGGAGATAAGTTGGAGACGACGCCCCTCTACTTGGAAGAAGACATTCGCC GGAGAAACATCATCCTTATGTCTCTGCTACACTTGGGCGCCCTGTATGGGATCACTTTGATTCCTACCTGCAACT TATACACCTGGCTTTGGGGGGTATTCTACTATTTTATCAGTGCCCTGGGCATAACAGCAGGAGCTCATCCTCTGT GGAGCCACTGATCTTACAAAGCTCGGCTGTCCCTGTGGCTCTTTCTGATCATTGCCAACACAATGGCATTCCAGA ATGATGTCTATGAATGGGCTCGCGACCACCGTGCCCACCACAGTTTTCAGAAACACATGCTGATCCTCATAATT CCTGACGTGGCTTTTTCTTCTCTCACGTGGGTTGGCTGCTTGTGCGCAAACACCCCAACTGTCAAAGAGAAGGGCA GTACGCTAGACTTGTCTGACCTAGAAGCCGAGAAACTGGTGATGTTCCAGAGGAGGTACTACAAACCCGGCTTGC TGTTGATGTGCTTCATCCTGCCCACGCTTGTGCCCTGGTGTTTCTGGGGTGAAACTTTTCAAAACAGCGTGTTCG TTGCCACTTTCTTGCGATATGCTGTGGTGCTTAATGCCACGTGGCTGAACAGTGCTGCCCACCTCTTCAGAT ATCGTCCTTATGACAAGAACATTAGCCTCCGGGAGAATATCCTGGTTTCACCTGGAGCTGTGGGTGAGGGCTTTC ACAACTACCACCACTCCTTTCCCTATGACTACTCTGCCAGTGAGTACCGCTGGCACATCAACTTCACCACATTCT TCATTGATTGCATGGCCGCCTTCGGTCTGGCCTACGACCAGAAGAAGTCTCCAAGGCCGCCATCTTGGCCAGGA TTAAAAGAACCGGAGAGGGAAACTACAAGAGTGGCTGAGTTTGGGGTCCCTCAGGTTCCTTCTTCAAAAGCCAGC CAGGCAGAGGTTTTAATGTCTGTTTATTAACTACTGAATAATGCTACCAGGATGCTAAAGATGATGATGATAACC CATTCCAGTACAGTATTCTTTTAAAATTCGAAAGTATTGAAAGCCAACAACTCTGCCTTTATGATGCTAAACTGA ${\tt CATTATTTCTTCTTCTTCTTCTTCTTCTAGGCCCATTGTCCTCTTTTCACTTTGTTGCTATCATCCTCCT}$ TTCTCTTATTGCCACCCAGGCAAGCAGCTGGTCAGTCTTTGTTCAGTGTCCAGCTTCCAAAGCCTAGACAACCTT TCTGTAGCCTAAAACGAATGGTCTCTGCTCCAGATAACTCTCTTTCCTTGAGCTGTTGTGAGCTTTGAAGTAGGT GGCTTGAGCTAGAGATAAAACAGAATCTTCTGGGTAGTCCCCTGTTAATTATCTTCAGCCCAGGCTTTTGCTAGA TGGAATGGAAAAGCAACTTCATTTGACACAAAGCTTCTAAAGCAGGTAAATTGTTGGGGGAGAGAGTTAGCATGT AGGACTTCAAGCCCCACCACATAGCATGCTTCCTTTCTCTCCTGGCTTGGGGTAAGAAGTGGCTGTGGTGTTTGG CAATGCTAATTCAATGCCGCAACATATAGTTTAGGCCAAGGATAAAGAAGAGACACTTTAAGTTTGTAGTAAAAG TGGTCTCTGCTGGGGAAGGGTTTTCTTTTTTTTTTTTTAATAACAAGGAGATTTCTTAGTTCATGTATCAAG AATTCTTGAAGTTGGGTGTTTCCATAATTGGTAAAAACAGCAGCTCACAGAATTTTGAGTATTCCATGAGCTGCT CATCACAGTTCTTTCCTCTTTCTGCTCTGCCATCTTCAGGATATTGGTTGTTCCCCTCATAGTAATAAGATGGCT AAGGAGAGGAGGAATTAGTTGGGATGCCAATTTCCTCTCCACTGCTGTACATGAGATGGGGAGGTTGAGGGACAG GATCTATAGGCAGCTTCTAAGAGCAAACTTCACACAGGAAGGGATCTGAGAACACATTGCCGGGGGCTTGAGAAG CTCCTTGAAATGAGTAAAAACTAGAAGGCTTCTCCCCACAGTGTTGTGCCCCTTCACTCATTTTTATTGGCGGG GTGGGGGGCTCTGTTAACATCTAGCCTAAGTATAGAACTGCCTGGGGGGCAGGGTTAGGAATCTCTTCACTACCC TGATTCTTGATTCCTGGTTCTACCCTGTCTGTCCCTTTTCTTTTACTAGATCTTTCTCTCCCTGAACGTTTTCT CCTCCGGAGTGTCTCCACCTACACCTCTGTGCTCCCCCGCCACACTGATGGCTCAAGACAAGGCTGGCAAACCCT ATGCTGAATGCCCCTCTGCTTGCTCGGTAAGGGTGCCCCACCTGAATCAGTGCTCTCAGCTGGCAGTGCAATGCT TGTAGAAGTAGGAGGAAACAGTTCTCACTGGGAAGAAGCAAGGGCAAGAACCCAAGTGCCTCACAAAAGGAG

5105/6881 FIGURE 4712B

GCCCTGTTCCCTGGAGTCAGGGTGAACTGCAAACCTTTGGCTGAGACCTGGGATTTGAGATACCACAAACCCTGC TGAACAGAGTGTCTGTTCAGCAAACTAACCAGCATTCCCTATAGCCTAGGGAATAGTATAGAAGTCTGGCAAAAA CAGAAACAGAACATCAGTGTTTTGAGAACCTTGGACTACTCCTGTCCCTGTAGCTCAGTCATCAAAGCAGAAGCC TGGCTTTGCTCTATTAAGATTGGAAATGTACACTACCAAACACTCAGTCCACTGTTGAGCCCCAGTGCTGGAAGG AAGGAGGCCTTTCTTCCTGTGTTAATTGCATGGAGGCTACAGGGGTTAGCCTGGACTAAAGGCATCCTTGTGTT TTGAGCTATTCACCTCAGTAGAAAAGAATCTAAGGGAAGATCACTGTAGTTTAGCTCTGTTGACCTGTGCACCTA CCCCTTGGAAATGTCTGCTGTTATTTCTAATTCCACAGGTCATAAGATGCCTTCTTGATGATATATGAACGATAA AAACAACTTTCACTTCCTATTGTAATCGTGTGCCATGGATCTGATCTGTACCATGACCCTACATAAGGCTGG ATGGCACCCTCAGGCTGAGGGCCCCAATGTATGTGTGGCTGTGGGTGTGGGTGTGGGTGTATCTGCTGAGTAAGG AACACTATTCTCAAGATTCTAAAGCTCAATTCAAGTGACACATTAATGATAAACTCAGATCTGATCAAGAGTCTG GATTTCTAACAGTCCTTGCTTCGGGGCTGTGCTGCCAACTTAACTCGGGTGCCTTACATCTTTTCTAATCATAGT GTTGCATATGAGCCTGCCCTCACTCCCTCTGTGGAATCCCTTTGCACCTGAGAGCCTACTGAAGTGGCTGGTAGA AAAAGGGGCCTGAGTGAAGGATTATCAGTATCGCGATTTGCAGGATTCCCTTCTGGGCTTCATTCTGGAAACTTT TGTTAGGGCTGCTTTTAAGTGCCCACATTTGATGGAGGGTGGAAGTAATTTGAATGTATTTGATTATATATA TATATTTTTAAGGTTAAAAGATGGTTGTAGCATTTAAAATGGAAAATTTTCTCCTCGGTTTGCTAGTATCTTGGG TGTATTCTCTCTAAGTGTAGCTCAAATAGGTCATCATGAAAGGTTAAAAAAGTGAGGTGGCCATGTTACGCTGGT GGTTAAGGCCAGGGCCTCTCCTACCACTGTGCCACTGACTTGCTATGTCACCCTGGGCAAGTCACTTAACTATAA CTAATGCTTTTTAGAAAGCATTTTGGGATCCTTCAGCACAGGGATTCTCAAGACCTGAGTATTTTTTATAATAGC AATGTCCACCATCAACTTGATATGTCCGTGTGTCCCAGATGCTGTCATTAGTCTATATGGTTCTCCAAAAAATTG AATGAATCCATTGGAGAAGCAGTGGATTAACTAGCCAGACAAAATTTGAGAATGCATAAAAAAACACATTGCCACG GAAACATACAGAGGATGCCTTTTCTGTGATTGGGTGGGATTTTTTCCCTTTTTATGTGGGACATAGTAGTTACTT GTGACAAGAATAATTTTGGAATAATTTCTATTAACATCAACTCTGAAGCTAATTGTACTAATCTGAGATTGTGTT TGTTTATAATAAAAGTGAAGTAATC

ACGGTCACCCGTTGCCAGCTCTAGCCTTTAAATTCCCGGATCGGCACCTCCACGCACCGCGCCTAGCGCCGACA CCCAGCTAGCGTGCAAGGCGCCGCGGCTCAGCGCGCACCGGCGGCTTCGAAATCGCAGTCCTCCGGCGACCCCG AACTCCGCCCCGGAGCCTCAGCCCCTGGAAAGTGATCCTGGCATCCGAGAGCCAAGATGCCGGCCCACTTGCTGC AGGACGATATCTCTAGCTCCTATACCACCACCACCACCACTTACAGCGCCTCCTTCCAGGGTCCCGCAGAATG ACCTCACCTACAAGGATAAGGAAGGCCCAAGCCCCAAGGTTGAATATGTCTGGAGAAACATCATCCTTATGTCTC TGCTACACTTGGGCGCCCTGTATGGGATCACTTTGATTCCTACCTGCAACTTATACACCTGGCTTTGGGGGGTAT TCTACTATTTTATCAGTGCCCTGGGCATAACAGCAGGAGCTCATCCTCTGTGGAGCCACTGATCTTACAAAGCTC GGCTGTCCCTGTGGCTCTTTCTGATCATTGCCAACACAATGGCATTCCAGAATGATGTCTATGAATGGGCTCGCG ACCACCGTGCCCACACAGTTTTCAGAAACACATGCTGATCCTCATAATTCCTGACGTGGCTTTTTCTTCTCTC ACGTGGGTTGGCTGCTTGTGCGCAAACACCCAACTGTCAAAGAGAAGGGCAGTACGCTAGACTTGTCTGACCTAG AAGCCGAGAAACTGGTGATGTTCCAGAGGAGGTACTACAAACCCGGCTTGCTGTTGATGTGCTTCATCCTGCCCA CGCTTGTGCCCTGGTGTTTCTGGGGTGAAACTTTTCAAAACAGCGTGTTCGTTGCCACTTTCTTGCGATATGCTG TGGTGCTTAATGCCACGTGGCTGGAACAGTGCTGCCCACCTCTTCAGATATCGTCCTTATGACAAGAACATTA GCCTCCGGGAGAATATCCTGGTTTCACCTGGAGCTGTGGGTGAGGGCTTTCACAACTACCACCACTCCTTTCCCT GTCTGGCCTACGACCAGAAGAAAGTCTCCAAGGCCGCCATCTTGGCCAGGATTAAAAGAACCGGAGAGGGAAACT TATTAACTACTGAATAATGCTACCAGGATGCTAAAGATGATGATGATAACCCATTCCAGTACAGTATTCTTTTAA AATTCGAAAGTATTGAAAGCC

MKFNPFVTSDRSKNRKRHFNAPSHIRRKIMSSPLSKELRQKYNVRSMPIRKDDEVQVVRGHYKGQQIGKVVQVYR KKYVIYIERVQREKANGTTVHVGIHPSKVVITRLKLDKDRKKILERKAKSRQVGKEKGKYKEETIEKMQE

5109/6881 FIGURE 4716A

GGAGAAGGCGGCGGAAGTTCCACGCCAAGATACTGGATTCGGTGCTGAGGCGGCGGCTGCGGCACGGGAAAGGC TCAGTGACTGAAGCTCCAAAGGCCAGCAGGCTGGTGGGGACCGAAGCGAGGCTCTGGTTCCCTTTCGGTG GGCGCCATTTGAGCCTCATCTCTGGCTTCCCCAGGATGCGCCGGCAGCCGGGGAGCGGCTCCGGGCGCGAGGTCT GAGGATGATCTTTCCTGTCGCCCGCTACGCGCTCCGGTGGCTGCGACGGCCCGAAGACCGTGCCTTTTCCCGCGC CGCCATGGAGATGGCCCTCCGAGGCGTGCGGAAAGTCCTCTGTGTGGCCGAAAAAAACGACGCGGCCAAGGGGAT CGCCGACCTGCTGTCAAACGGTCGCATGAGGCGGAGAGAGGACTTTCAAAATTCAACAAGATCTATGAATTTGA TTATCATCTGTATGGCCAGAATGTTACCATGGTAATGACTTCAGTTTCTGGACATTTACTGGCTCATGATTTCCA GATGCAGTTTCGAAAATGGCAGAGCTGCAACCCTCTTGTCCTCTTTGAAGCAGAAATTGAAAAGTACTGCCCAGA TGATAGAGAAGCCGAAAACATCGGGTTTGAGATTATCCACGTGTGTAAGGCTGTAAAGCCCAATCTGCAGGTGTT GCGAGCCCGATTCTCTGAGATCACACCCCATGCCGTCAGGACAGCTTGTGAAAACCTGACCGAGCCTGATCAGAG GGTGAGCGATGCTGTGGATGTGAGGCAGGAGCTGGACCTGAGGATTGGAGCTGCCTTTACTAGGTTCCAGACCCT GCGGCTTCAGAGGATTTTTCCTGAGGTGCTGGCAGAGCAGCTCATCAGTTACGGCAGCTGCCAGTTCCCCACACT GGGCTTTGTGGTGGAGCGGTTCAAAGCCATTCAGGCTTTTGTACCAGAAATCTTCCACAGAATTAAAGTAACTCA TGACCACAAAGATGGTATCGTAGAATTCAACTGGAAAAGGCATCGACTCTTTAACCACACGGCTTGCCTAGTTCT CTATCAGTTGTGTGGAGGATCCCATGGCAACTGTGGTAGAGGTCAGATCTAAGCCCAAGAGCAAGTGGCGGCC TCAAGCCTTGGACACTGTGGAGCTTGAGAAGCTGGCTTCTCGAAAGTTGAGAATAAATGCTAAAGAAACCATGAG GATTGCTGAGAAGCTCTACACTCAAGGGTACATCAGCTATCCCCGAACAGAAACAATTTTTCCCAGAGACTT AAACCTGACGGTGTTGGTGGAACAGCAGACCCCCGATCCACGCTGGGGGGCCTTTGCCCAGAGCATTCTAGAGCG GGGTGGTCCCACCCCACGCAATGGGAACAAGTCTGACCAAGCTCACCCTCCCATTCACCCCACCAAATACACCAA CAACTTACAGGGAGATGAACAGCGACTGTACGAGTTTATTGTTCGCCATTTCCTGGCTTGCTGCTCCCAGGATGC TCAGGGGCAGGAGACCACAGTGGAGATCGACATCGCTCAGGAACGCTTTGTGGCCCATGGCCTCATGATTCTGGC CCGAAACTATCTGGATGTGTATCCATATGATCACTGGAGTGACAAGATCCTCCCTGTCTATGAGCAAGGATCCCA TGCCCTCATGGAGAAGCATGGCATTGGTACGGATGCCACTCATGCGGAGCACATCGAGACCATCAAAGCCCGGAT GTACGTGGGCCTCACCCCAGACAAGCGGTTCCTCCCTGGGCACCTGGGCATGGGACTTGTGGAAGGTTATGATTC CATGGGCTATGAAATGTCTAAGCCTGACCTCCGGGCTGAACTGGAAGCTGATCTGAAGCTGATCTGTGATGGCAA AAAGGACAAATTTGTGGTTCTAAGGCAGCAGCAGTGCAGAAATACAAGCAGGTTTTCATTGAAGCGGTGGCTAAAGC AAAGAATTGGACGAGGCCTTGGCCCAGTACTTTGGGAATGGGACAGAGTTGGCCCAGCAAGAAGATATCTACCC AGCCATGCCAGAGCCCATCAGGAAGTGCCCACAGTGCAACAAGGACATGGTCCTTAAGACCAAGAAGAATGGCGG GTTCTACCTCAGCTGCATGGGTTTCCCAGAGTGTCGCTCAGCTGTGTGGCTTCCTGACTCGGTGCTGGAGGCCAG CAGGGACAGCAGTGTGTCCAGTTTGTCAGCCACACCCTGTGTACAGGTTAAAGTTAAAGTTTAAGCGCGGTAG CCTTCCCCGACCATGCCTCTGGAGTTTGTTTGCTGCATCGGCGGATGCGACGACACCCTGAGGGAGATCCTGGA CCTGAGATTTTCAGGGGGCCCCCCAGGGCTAGCCAGCCCTCTGGCCGCCTGCAGGCTAACCAGTCCCTGAACAG CCCACCACCACGGCTGCTGGTGAAAGCAATTCTGTGACCTGCAACTGTGGCCAGGAGGCTGTGCTGCTCACTGT CCGTAAGGAGGCCCCAACCGGGCCGGCAGTTCTTTAAGTGCAACGGAGGTAGCTGCAACTTCTTCCTGTGGGC AGACAGCCCCAATCCGGGAGCAGGAGGGCCTCCTGCCTTGGCATATAGACCCCTGGGCGCCTCCCTGGGATGCCC ACCAGGCCCAGGGATCCACCTAGGTGGGTTTGGCAACCCTGGTGATGGCAGTGGTAGTGGCACATCCTGCCTTTG CAGCCAGCCTCCGTCACACGGACTGTGCAGAAGGATGGACCCAACAAGGGGCGCCAGTTCCACACATGTGCCAA GCCGAGAGAGCAGCAGTGTGGCTTTTTCCAGTGGGTCGATGAGAACACCGCTCCAGGGACTTCTGGAGCCCCGTC CTGGACAGGAGACAGAGCACTGGAGTCGGAAGCCAGAAGCAAAAGGCCCCGGGCCAGTTCCTCAGACAT GGGGTCCACAGCAAAGAAACCCCGGAAATGCAGCCTTTGCCACCAGCCTGGACACACCCGTCCCTTTTGTCCTCA GAACAGATGAGCTCAGGGTAGGGTAGAGAACGCCACTTTCTCAGACCTGTCCCCTTTGTGTTTAGAAATGAGTTA ACCAGGACCAAGTGGCCATTTAGTGTCCTGGAAACTTAGAGGACAGTGTTGGCCTTTGGAGTCGGGCCTTCTTGT GTTAAGGGGCACAAGGTCCAGATCACTCTGGAGCAGGCCAGCTCTGCTGGACAGTGACCCTCTTCCCAGGCCTCA GGAGTGACCATAGCCACTGCTGAAAAGTCACGCAGCTGCTCCCTCGGACCCCCCAAGGATGGTTGCTGTTAGCAG

5110/6881 FIGURE 4716B

AGAAAGCCCCAAGTGAGCCACCAGCACTCATGGGGCAGTCCCTGTCCAGGGCTGCCCAGGGCTTCTCATAGACGTC
CTGAGAAGGACGGTGTAATGCAAGGAAATGGCTGTGGTAACACTGATCCTTCAGAAGAAGCTTCATTCCCTCTTA
ATCTAGTTAAGCCAGGACATCCAGAATTCATTGCTTTAATAAAGAACCCAGGCCGGG

MIFPVARYALRWLRRPEDRAFSRAAMEMALRGVRKVLCVAEKNDAAKGIADLLSNGRMRRREGLSKFNKIYEFDY HLYGQNVTMVMTSVSGHLLAHDFQMQFRKWQSCNPLVLFEAEIEKYCPENFVDIKKTLERETRQCQALVIWTDCD REGENIGFEIIHVCKAVKPNLQVLRARFSEITPHAVRTACENLTEPDQRVSDAVDVRQELDLRIGAAFTRFQTLR LQRIFPEVLAEQLISYGSCQFPTLGFVVERFKAIQAFVPEIFHRIKVTHDHKDGIVEFNWKRHRLFNHTACLVLY QLCVEDPMATVVEVRSKPKSKWRPQALDTVELEKLASRKLRINAKETMRIAEKLYTQGYISYPRTETNIFPRDLN LTVLVEQQTPDPRWGAFAQSILERGGPTPRNGNKSDQAHPPIHPTKYTNNLQGDEQRLYEFIVRHFLACCSQDAQ GQETTVEIDIAQERFVAHGLMILARNYLDVYPYDHWSDKILPVYEQGSHFQPSTVEMVDGETSPPKLLTEADLIA LMEKHGIGTDATHAEHIETIKARMYVGLTPDKRFLPGHLGMGLVEGYDSMGYEMSKPDLRAELEADLKLICDGKK DKFVVLRQQVQKYKQVFIEAVAKAKKLDEALAQYFGNGTELAQQEDIYPAMPEPIRKCPQCNKDMVLKTKKNGGF YLSCMGFPECRSAVWLPDSVLEASRDSSVCPVCQPHPVYRLKLKFKRGSLPPTMPLEFVCCIGGCDDTLREILDL RFSGGPPRASQPSGRLQANQSLNRMDNSQHPQPADSRQTGSSKALAQTLPPPTAAGESNSVTCNCGQEAVLLTVR KEGPNRGRQFFKCNGGSCNFFLWADSPNPGAGGPPALAYRPLGASLGCPPGPGIHLGGFGNPGDGSGSGTSCLCS QPSVTRTVQKDGPNKGRQFHTCAKPREQQCGFFQWVDENTAPGTSGAPSWTGDRGRTLESEARSKRPRASSSDMG STAKKPRKCSLCHQPGHTRPFCPQNR

5113/6881 FIGURE 4719A

 $\tt CTAGCCCGGCGCGCCGCGAGAGCGGCGCCC\underline{ATC} GAGGCCACCGGGGTGCTGCCGTTCGTGCGTGGCGTGG$ ACCTCAGCGGCAACGACTTCAAGGGCGGCTACTTCCCTGAGAATGTCAAGGCCATGACCAGCCTGCGGTGGCTGA AGCTGAACCGCACTGGCCTCTGCTACCTGCCCGAGGAGCTGGCCGCCCTGCAGAAGCTGGAACACTTGTCTGTGA GCCACAACAACCTGACCACGCTTCATGGGGAGCTGTCCAGCCTGCCATCGCTGCGCCCATCGTGGCCCGAGCCA ACAGTCTGAAGAATTCCGGAGTCCCCGATGACATCTTCAAGCTAGATGATCTCTCAGTCCTGGACTTGAGCCACA ACCAGCTGACAGAGTGCCCGCGGGAGCTGGAGAACGCCAAGAACATGCTGGTGCTGAACCTCAGCCACAACAGCA TCGACACCATCCCCAACCAGCTCTTCATCAACCTCACTGACCTACTATACCTGGACCTCAGCGAGAACCGCCTGG AGAGCCTGCCCCGCAGATGCGCCGCCTGGTGCACCTGCAGACGCTCGTGCTCAATGGAAACCCCCTGCTGCATG CACAGCTCCGGCAGCTCCCAGCGATGACGGCCCTGCAGACCCTGCACCTGCGGAGCACCCAGCGCACCCAGAGCA ACCTGCCCACCAGCCTGGAGGGTCTGAGCAACCTCGCAGACGTGGATCTGTCCTGCAATGACCTGACACGGGTGC CCGAGTGTCTGTACACCCTCCCCAGCCTGCGCCGCCTCAACCTCAGCAGCAACCAGATCACGGAGCTGTCCCTGT GCATAGACCAGTGGGTGCACGTGGAAACTCTGAACCTGTCCCGAAATCAGCTCACCTCACCTCAGCCATTT GCAAGCTGAGCAAGATGAAGAAGCTGTACCTGAATTCCAACAAGCTGGACTTTGACGGGCTGCCCTCAGGCATTG GCAAGCTCACCAACCTGGAAGAGTTCATGGCTGCCAACAACCACCTGGAGCTGGTCCCTGAAAGTCTCTGCAGGT AGATCGAGGTCCTGGATGTGCGGGAGAACCCCAACCTGGTCATGCCGCCCAAGCCCGCAGACCGTGCCGCTGAGT GGTACAACATCGACTTCTCGCTGCAGAACCAGCTGCGGCTAGCGGGTGCCTCTCCTGCTACCGTGGCTGCAGCTG ATGACCAGGCCAAGCAGGTGCTGAAGGGCATGTCAGATGTTGCCCAGGAGAAGAACAAAAAGCAGGAGGAGAGCG $\tt CAGATGCCCGGGGCCCCAGCGGGAAGGTGCGGCGTTGGGACCAGGGCCTGGAGAAGCCCCGCCTTGACTACTCCG$ AGTTCTTCACGGAGGACGTGGGCCAGCTGCCCGGACTGACCATCTGGCAGATAGAGAACTTCGTGCCTGTGCTGG ${\tt TGGAGGAAGCCTTCCACGGCAAGTTCTACGAGGCTGACTGCTACATTGTGCTCAAGACCTTTCTGGATGACAGCG}$ GCTCCCTCAACTGGGAGATCTACTACTGGATTGGCGGGGGGGCCACACTCGACAAGAAAGCTTGCTCTGCCATCC ACGCTGTCAACTTGCGCAACTACCTGGGTGCTGAGTGCCGCACTGTCCGGGAGGAGATGGGCGATGAGAGCGAGG AGTTCCTGCAGGTGTTTGACAACGACATCTCCTACATTGAGGGTGGAACAGCCAGTGGCTTCTACACTGTGGAAG ACACACACTATGTCACCAGGATGTATCGTGTGTATGGGAAAAAGAACATCAAGTTGGAGCCTGTGCCCCTCAAGG GGACCTCTCTGGACCCAAGGTTTGTTTTCCTGCTGGACCGAGGGCTAGACATCTACGTATGGCGGGGGGCCCAGG $\verb|CCACACTGAGCAGCACCAAGGCCAGGCTCTTTGCAGAGAAAATTAACAAGAATGAGCGGAAAGGGAAGGCTG|\\$ AGAAGCACGTGCCTGAAGACTTCTGGCCGCCGCAGCCCAAGCTGTACAAGGTGGGCCTGGGCTTGGGCTACCTGG AGCTGCCACAGATCAACTACAAGCTCTCCGTGGAACATAAGCAGCGTCCCAAGGTGGAGCTGATGCCAAGAATGC GGCTGCTGCAGAGTCTGCTGGACACGCGCTGCGTGTACATTCTGGACTGTTGGTCCGACGTGTTCATCTGGCTCG GCCGCAAGTCCCCGCGCCTGGTGCGCCGCTGCCGCCCTCAAGCTGGGTCAGGAGCTGTGCGGGATGCTGCACCGGC CACGCCATGCCACGGTCAGCCGCAGCCTCGAGGGCACCGAGGCGCAGGTGTTCAAGGCCAAGTTCAAGAATTGGG ACGATGTGTTGACGGTGGACTACACACGCAATGCGGAGGCCGTGCTGCAGAGCCCGGGTCTCTCCGGGAAGGTGA AACGCGACGCCGAGAAGAAAGACCAGATGAAGGCTGACCTCACTGCGCTTTTCCTGCCGCGGCAGCCGCCCATGT CGCTGGCCGAGGCGGAGCAGCTGATGGAGGAGTGGAACGAAGACCTAGACGCATGGAGGGTTTCGTGCTGGAGG GCAAGAAGTTTGCGCGGCTGCCGGAAGAGGAGTTTGGCCACTTCTACACGCAGGACTGCTACGTCTTCCTCTGCA GCGAGGAAGCAACCGCTGAGGCAGAGGAGAAGCAGCCAGAGGAGGACTTCCAGTGCATCGTGTACTTCTGGCAGG GCCGTGAAGCCTCCAATATGGGCTGGCTCACCTTCACCTTCAGCCTGCAAAAGAAGTTCGAGAGCCTCTTCCCTG GGAAGCTGGAGGTGGTACGCATGACGCAGCAGCAGGAGAACCCCAAGTTCCTGTCCCATTTCAAGAGGAAGTTCA TCATCCACCGGGGCAAGAGGAAGGCGGTCCAGGGCGCCCAACAGCCCTCTACCAGATCCGCACCAACGGCA GCGCCCTCTGCACCCGGTGCATCCAGATCAACACCGACTCCAGCCTCCTCAACTCCGAGTTCTGCTTCATCCTCA AGCCTGAGAACTTCTTCTGGGTGGGCATTGGGGCACAGAAGCCCTATGATGACGATGCCGAGTACATGAAACACA CACGTCTCTTCCGGTGCTCCAACGAGAAGGGCTACTTTGCAGTGACTGAGAAATGCTCCGACTTTTGCCAAGATG

5114/6881 FIGURE 4719B

MEATGVLPFVRGVDLSGNDFKGGYFPENVKAMTSLRWLKLNRTGLCYLPEELAALQKLEHLSVSHNNLTTLHGEL SSLPSLRAIVARANSLKNSGVPDDIFKLDDLSVLDLSHNQLTECPRELENAKNMLVLNLSHNSIDTIPNQLFINL TDLLYLDLSENRLESLPPQMRRLVHLQTLVLNGNPLLHAQLRQLPAMTALQTLHLRSTQRTQSNLPTSLEGLSNL ADVDLSCNDLTRVPECLYTLPSLRRLNLSSNQITELSLCIDQWVHVETLNLSRNQLTSLPSAICKLSKLKKLYLN SNKLDFDGLPSGIGKLTNLEEFMAANNNLELVPESLCRCPKLRKLVLNKNHLVTLPEAIHFLTEIEVLDVRENPN ${\tt LVMPPKPADRAAEWYNIDFSLQNQLRLAGASPATVAAAAAAGSGPKDPMARKMRLRRRKDSAQDDQAKQVLKGMS}$ DVAQEKNKKQEESADARAPSGKVRRWDQGLEKPRLDYSEFFTEDVGQLPGLTIWQIENFVPVLVEEAFHGKFYEA DCYIVLKTFLDDSGSLNWEIYYWIGGEATLDKKACSAIHAVNLRNYLGAECRTVREEMGDESEEFLQVFDNDISY IEGGTASGFYTVEDTHYVTRMYRVYGKKNIKLEPVPLKGTSLDPRFVFLLDRGLDIYVWRGAQATLSSTTKARLF AEKINKNERKGKAEITLLVQGQELPEFWEALGGEPSEIKKHVPEDFWPPQPKLYKVGLGLGYLELPQINYKLSVE HKQRPKVELMPRMRLLQSLLDTRCVYILDCWSDVFIWLGRKSPRLVRAAALKLGQELCGMLHRPRHATVSRSLEG TEAQVFKAKFKNWDDVLTVDYTRNAEAVLQSPGLSGKVKRDAEKKDQMKADLTALFLPRQPPMSLAEAEQLMEEW NEDLDGMEGFVLEGKKFARLPEEEFGHFYTQDCYVFLCRYWVPVEYEEEEKKEDKEEKAEGKEGEEATAEAEEKQ PEEDFQCIVYFWQGREASNMGWLTFTFSLQKKFESLFPGKLEVVRMTQQQENPKFLSHFKRKFIIHRGKRKAVQG AQQPSLYQIRTNGSALCTRCIQINTDSSLLNSEFCFILKVPFESEDNQGIVYAWVGRASDPDEAKLAEDILNTMF DTSYSKOVINEGEEPENFFWVGIGAOKPYDDDAEYMKHTRLFRCSNEKGYFAVTEKCSDFCQDDLADDDIMLLDN GQEVYMWVGTQTSQVEIKLSLKACQVYIQHMRSKEHERPRRLRLVRKGNEQHAFTRCFHAWSAFCKALA

5116/6881 FIGURE 4721A

AGACTGTGGAGCATGGCTTCCCCAATCAGCCCAGCGCCCTGGCCTTCGACCCGGAACTTCGCATCATGGCCATCG GCACCAGGTCTGGGGCTGTCAAGATCTATGGTGCACCTGGCGTGGAGTTCACAGGCCTGCACCGGGATGCAGCCA $\tt CTGTCACAGAGTGCACTTCTTGACCGGCCAGGGCCGCCTCCTGTCCCTGCTTGATGACAGCAGTCTGCATCTCT$ GGGAGATTGTCCACCATAATGGCTGTGCCCACCTGGAAGAAGCACTCAGTTTCCAGCTGCCCAGCCGGCCCGGCT TTGATGGTGCCAGTGCTCCGCTCAGCCTTACCCGAGTCACAGTGGTCCTGCTGGTGGCTGCCGGCGACATAGCAG CCCTGGGCACTGAGGGCAGCAGTGTCTTCCTGGATGTTACCACCCTGACCCTGCTCGAGGGGCAGACGCTTG ${\tt CCCCAGGCGAGGTTCTGCGCAGCGTGCCAGACGACTACCGCTGTGGGAAGGCACTGGGCCCCGTGGAGTCACTCC}$ AGGGACACCTGCGGGACCCCACAAAGATTCTCATTGGCTACAGCCGGGGCCTGCTGGTCATCTGGAACCAGGCCT CGCAGTGTGTGGACCACATCTTCCTGGGGAACCAGCAGCTGGAGAGCCTATGCTGGGGGGCGTGATAGCAGCACTG TGGTCAGCTCACACAGCGATGGCAGCTATGCTGTCTGGTCTGTGGATGCCGGCAGCTTCCCAACGCTGCAGCCCA CGGTAGCCACCACACCTTACGGCCCCTTTCCCTGCAAGGCCATTAACAAGATTCTGTGGCGGAACTGTGAATCTG GGGGCCACTTTATCATCTTCAGCGGTGGCATGCCCCGTGCCAGCTATGGTGACCGCCACTGTGTAAGTGTGCTTC GAGCCGAGACATTGGTGACGCTGGACTTCACTTCCCGCATCATCGACTTCTCACAGTGCACAGCACACGCCCG AGGATGAATTTGATGACCCCCAGGCCCTGGCTGTGCTGCTGGAAGAGGAGCTGGTGGTGCTGGACCTGCAGACTC CTGGCTGGCCAGCTGTGCCTGCCCCATACCTGGCCCCGCTGCACTCCTCTGCAATCACTTGCTCGGCCCACGTGG CCAGTGTCCCCGCCAAGCTGTGGGCCCGCATTGTGAGCGCTGGCGAGCAGCAGAGCCCCCAGCCTGTCTCCAGTG ATGAGGACGCACCGTGAGGTTCTGGGATGCCTCGGGTGTGGCGCTGCGGCCCTCTATAAGCTGAGCACAGCTG GCCTCTTCCAGACAGACTGTGAGCACGCTGACAGCCTGGCCCAGGCTGCCGAGGACGACTGGCCACCCTTCCGCA AGGTGGGCTGCTTCGATCCCTACAGTGACGATCCCCGGCTTGGCGTGCAGAAGGTTGCTCTCTGCAAGTATACAG CCCAGATGGTGGTGGCTGCCACTGCAGGCCAGGTGCTGGTACTGGAGCTTAGTGATGTGCCGGTGGAGCAGGCGG TCAGCGTGGCCATCATAGACCTCCTCCAGGACCGCGAGGGCTTCACATGGAAGGGCCACGAGCGGCTGAGCCCAC CCGCTGTCACACTCCACACCGAGTGGAGCCTCGTGGCTTTTGGCACCAGTCATGGCTTTGGCCTCTTCGACTACC AGCGCAAGAGCCCTGTGCTGGCCAGGTGCACTCTTCACCCCAATGACTCCCTGGCCATGGAGGGTCCGCTCTCCC GGGTGAAGTCTCTCAAGAAGTCACTGCGCCAGTCTTTCCGGCGCATTCGCAAGAGTCGTGTCTCTGGCAAGAAGC CGCCCGTGCAGCGCCGCATTGAGCCCCGCTCTGCCGATGACTCCTTGTCGGGTGTCGTGCGTTGCCTATACTTTG CCGACACATTCCTTCGAGATGGGGCCCACCACGGGCCCACCATGTGGGCTGGCACCAACTCAGGCTCTGTGTTCG CCTATGCACTGGAGGTGCCGGCAGCAGCAGTGGGTGGTGAGAAGCGGCCTGAGCAAGCGGTGGAGGCCGTGCTGG GCAAGGAGGTGCAGCTGATGCACCGGGCGCCTGTGGTGGCCATTGCCGTGTTGGACGGGCGTGGCCGCCCACTGC CCGAGCCCTACGAGGCCTCACGGGACCTGGCGCAGGCACCTGACATGCAGGGTGGTCACGCTGTGCTCATCGCAT CTGAGGAGCAGTTCAAGGTGTTCACACTGCCCAAGGTGAGCCGCAAGACCAAGTTCAAGCTGACGGCCCATGAGG CCTGCCTCACCAACCTGGGTGACGTCCACGTCTTCTCGGTGCCTGGGCCTGCGGCCCCAGGTGCACTATTCCTGCA TCCGGAAGGAGGACATCAGCGGCATCGCTTCGTGCGTCTTTACGCGCCCATGGCCAGGGCTTTTACCTGATATCCC CATCAGAATTTGAACGCTTCTCCCTAAGTGCCCGGAACATCACAGAGCCGCTCTGCTCTCTGGACATTAACTGGC CCCGCGATGCCACCCAGGCCAGTTACAGGATCCGAGAGTCACCCAAGCTGAGCCAGGCTAACGGGACCCCAAGCA TCCTGCTGGCCCCACAGAGCCTTGATGGAAGCCCTGATCCAGCCCACAGCATGGGACCTGACACCCCGGAGCCAC CCGAGGCTGCACTCTCACCCATGTCCATCGACTCAGCCACCAGTGCTGACACCACGCTGGACACGACAGGGGACG TCACAGTGGAAGATGTGAAGGATTTCCTGGGCTCCTCTGAGGAGTCAGAGAACCTGAGGAACCTGGCAGAAG ACGAGGCCCACGCCTGTGCCATCCTGATCAAATGAGGAAGGCCAGAACTATCCCGACCTCCACCTGCCCTGCTCG GAGCTGGAGTGCTGGATCCCTGGCACCTGCCCTGGCCCCTTAACATAGAACCACGCCTGCTAACCTGTAGGCTCCA CTGGGACCTGCTGTCCTGTCCCGCCTGACCCTGGGCCCTGGAGCACCACCACCCCAGGGTGTGGGCCTGGGACC TGGGCCAGAACTGAGCCCTCCTGCAGGCATTTGGCTGCCCTGGGGGCCCACTGCCTAGGGAAGAGGACAGGTGGG GCCCAGCACCTGTGCCACCTCCCCCCCTCCACACACCCTTCCCCCTCACTTTGCAGAGTATTTTTCCTTTTT TTTTTTTTTTTTAAAGACGGAGTCTTGCTCTGTCGCCCAGGCTGGAGTGCAGTGGCCCCATCTCTGCTCACTGCA AGCCCGCCTTCTGGGTTCCCGCCATTCTTCTGCCTCAGCCTCCCAAGTAGCTGGGACTACAGGCGCCCACCACCA WO 2004/030615 PCT/US2003/028547

5117/6881 FIGURE 4721B

 ${\tt ACGCCCAGCTAATTTTTCTGTATTTTTAGTAGAGATGGGGTTTCACCATGTTAGCCAGGATGGTCTCG}$

MMKFRFRRQGADPQREKLKQELFAFNKTVEHGFPNQPSALAFDPELRIMAIGTRSGAVKIYGAPGVEFTGLHRDA ATVTQMHFLTGQGRLLSLLDDSSLHLWEIVHHNGCAHLEEALSFQLPSRPGFDGASAPLSLTRVTVVLLVAASDI AALGTEGSSVFFLDVTTLTLLEGQTLAPGEVLRSVPDDYRCGKALGPVESLQGHLRDPTKILIGYSRGLLVIWNQ ASQCVDHIFLGNQQLESLCWGRDSSTVVSSHSDGSYAVWSVDAGSFPTLQPTVATTPYGPFPCKAINKILWRNCE SGGHFIIFSGGMPRASYGDRHCVSVLRAETLVTLDFTSRIIDFFTVHSTRPEDEFDDPQALAVLLEEELVVLDLQ TPGWPAVPAPYLAPLHSSAITCSAHVASVPAKLWARIVSAGEQQSPQPVSSALSWPITGGRNLAQEPSQRGLLLT GHEDGTVRFWDASGVALRPLYKLSTAGLFQTDCEHADSLAQAAEDDWPPFRKVGCFDPYSDDPRLGVQKVALCKY TAQMVVAGTAGQVLVLELSDVPVEQAVSVAIIDLLQDREGFTWKGHERLSPRTGPLPWPAGFQPRVLVQCLPPAA VTAVTLHTEWSLVAFGTSHGFGLFDYQRKSPVLARCTLHPNDSLAMEGPLSRVKSLKKSLRQSFRRIRKSRVSGK KRAANASSKEANAQLAEQACPHDVEMTPVQRRIEPRSADDSLSGVVRCLYFADTFLRDGAHHGPTMWAGTNSGSV FAYALEVPAAAVGGEKRPEQAVEAVLGKEVQLMHRAPVVAIAVLDGRGRPLPEPYEASRDLAQAPDMQGGHAVLI ASEEQFKVFTLPKVSAKTKFKLTAHEGCRVRKVALATFASVACEDYAETCLACLTNLGDVHVFSVPGLRPQVHYS CIRKEDISGIASCVFTRHGQGFYLISPSEFERFSLSARNITEPLCSLDINWPRDATQASYRIRESPKLSQANGTP SILLAPQSLDGSPDPAHSMGPDTPEPPEAALSPMSIDSATSADTTLDTTGDVTVEDVKDFLGSSEESEKNLRNLA EDEAHACAILIK

5119/6881 FIGURE 4723A

GAGGATGCAGAGTGGGAGACCTTAAAACCGTCTGATCTGGCTGCTAAAGCGAGTGTCTGACGACCACCCATTAAC ACCAGCGAGTAGCGTTTGCTCACGGCTTTAGGATAAGAAGCCTGGAATGGTCCCCCCTCCGCCGGGAGAAGAAAG CCAGACGGTCATCCTTCCACCTGGCTGGCAGAGCTACCTGTCGCCTCAGGGCCGGCGGTACTATGTCAACACGAC TCTGCCTCCAACAGTGAATGGATACCACGCATCAGGGACCCCAGCGCACCCTCCAGAGACTGCCCACATGAGTGT CCGAAAATCCACCGGTGATTCCCAGAACCTGGGATCCTCATCGCCAAGCAAAAAGCAGAGCAAGGAAAAACACCAT CTACTGCGACTACTTCTGGGCTGATAAGAAGGACCCCCAAGGCAACGGCACCGTGGCTGGGTTTGAACTACTGCT CCAGAAACAGCTGAAGGGCAAACAAATGCAGAAGGAAATGTCAGAATTCATCCGGGAAAGGATAAAGATTGAAGA AGACTATGCGAAGAACTTAGCTAAGCTCTCTCAGAACTCCTTGGCTTCACAGGAGGAAGGCTCCTTGGGAGAGGC GTGGGCCCAGGTGAAGAAGAGCCTGGCGGACGAAGCAGAAGTTCACCTCAAGTTCTCTGCCAAGCTTCACAGCGA CCTTCGCAAGCAGCTCGCCAGCCGCTATGCCTCGGTGGAGAAGGCCCGGAAAGCCCTCACAGAGCGGCAGAGAGA CCTGGAGATGAAGACCCAGCAGCTGGAGATCAAGCTGAGCAACAAGACAGAGGAGGACATCAAGAAGGCGCGGAG AAAGTCCACACAGGCTGGAGACGACCTCATGCGCTGTGTGGATCTCTACAACCAGGCCCAGTCCAAATGGTTTGA CCAGTACACGCAGCTGCGGCATGAAACAGACATGTTCAACCAAAGCACAGTCGAGCCCGTGGATCAGCTGCTTCG GGAGATCTAGATGGGCCTGTGCAGCTTCGGGGGGTCCTGCTGGGXGAXXGGGGGGXCXTGGGCTCCCACCATGGG TGGTCCTTGCCGAGTTTTGTAGGGGTCACTGTCACATGCTTGTGCCCTGGAAGCCCCAAGGCTCTTCCTCCAGCT ATCATGGGTAGAAGGTGCCATTCAGCTCACAGCCGCACCCAGAATCCTTTGCAGCCCTCCTTCTTTATTTTTTTC CCATTGCATTCTGGGAGTCCACATCTGGCTTTCTCAGCCACTGTTCATCACCAGGGGTTTTAGGAGGAAGGCTTG GCTCCTGTCTTCCCAGACCCACCATGCCTGGAGAGGTCAGGATGGAACTACCTCATTCGGCAAATTAGCCCCAAA AGGCCAGCAAGCTGGGGCCTGTCCGCCACGGTGCCCTGTGCACCTTTGGGCTGCCCTGGCCCCCACTCTCCCGGG $\tt CCGCCCACCACGGCTCTTAATGGGGCCGGGTCAGTCCTACATGTGAGATGGGTTAGGGCAAGTCTTTGCCATCC$ $\tt CCCAGATGGCTCTGTCTTCTTGTGTATGGCAGGGCTGGGACTGCTGTCCCTTGTACAGTTTTCTGTCACTGGTGG$ GCACTGGACAGGCATAGCAGACTCTCTTGTGGCCACACTAGGTTGTCGCCTTTCAGGCAGTGTCCCGCCACCTTT GCTTCCCGCTCCTTCTGGACATTCCAGAGCCCTGCACCAAACCCTTACTTGGTGTCTGCACCTCCTTTCCCTCTC TCCATCTTCCAATCCCTGGAAAAGTCTGGTCTGAGTGTGACTTGGGAAGCTTTCAGTGCTGCTGTTTGGCCCAGC TCATTACTTCTCCCTTTCTCTACCACAGCAAACACTTCTCCACCATGTCAGTCTAAAGAGTCTAAAGGGGCCG TTGACCACTTTGGGTTTGACCTGCACATCTGCAGTGAGGGCAGAATTCAACAAGCACAACTCACTGGTCTTTCAG TCAACGTGCTAGAAACCGATGACTTATTAATCTCTAATTTTTTTGGCGCCTCTTTCATTGAATGAGAATTGCTTTC GTATAGTTCACATTAGAAAAATGCCTAATATACTAAAGTAAACCAAACGTTGTCACTTTTCTCTTGTTCTTGAAA CATTGCAACCAAAAAGGTCAGCACAAAGGCCTTCACCTACGTGAAGACCTCCTGGTAGGATCTGTCCATGGGATG GAGAACCACTCTGTCCAGATCTGGGGTTGGGTCATGACACCAGCTACCAATTTTAGAATATTATTTCTTGGTTTC TTTATGAAAAATGGGTGCTAGTGGTAATTGCTTTGTGGCTTAGTAAACTACTCTGTGGATGATTTCCAAACATTC AAAGCCAATAGCCTTGTTATTAACAAGATATTTTGAGTACAATATGGCTCATTGACTTTTCCATTACATCTGAGG ATTCCAGAGTCCTCTGTTCATCCCTGGGATAGAGTGAGCCCTCTTGCGTCTTCCAGGGTAGCTCAGGTTGGCCCA GTTTGGGCCAGTCCATTTTTGGAGGTCACTCTTTCCCCCCTCATCCCTCACCTCCTTCTTTTACCCCCTTCAC GTACTTCCTTTCTTCCCTCTGTTATTCATCATCAAGCAGGTTAAAGCCATTGTGCTAAGATCTAATCTGA

5120/6881 FIGURE 4723B

GGACACTATAATGGCCCTGTCGTCAGGGAAGCCCGTGATCGCTCGTTTTCAGGGGTCTTACCGGTCAGCAACCTT GGCATTGATACATAGGCACTCTACAGAATTTAAGTTTTCAGAGGTAAGTCTGTTGTTCTGATTAATCTGCATTCA GCTCTCCTCTATTCTCCATGTCGACTGAGAAGAGTATAATAAGAACATTGTACCCTCTCCACACTTAACCCTCTG TTAATCACCTGGTCACCAGACCCTCACGGCCCATATCCAATTCGAATTTCAGAAATTTCTCTGTTTGCTTTAAAT AACTCTTTACAAATAAGGGTCGGGCACGGTGGCTCACGCCTGTAATCCCAGCTCTTTGGGAGGCCGAGGTGGGCA GATCACGAGGTCAGGAGATCGAGACCATCCTGGCTAACATGGTGAAACCCCGTCTCTGCTAAAAAATACAAAAAAT TAGCCAGATGTGGTGGTGCACACCTGTAGTCCCAACTATTCGGCAGGCTGAGGCAGTAGAATCGCTTGAACCTGG GAGGCGGAGATTGCAGTGAACCAAGATCGGGCCACTGCACTCCAGCTTGGGTGACAGAGCCAAGACTCCATCTCAA AAAAATTATAAATAACTCTTTGCAAATAGGAAAGTGAAGCTCAAGGGTAACCAGTGAGGCTATGAAATTGCCAGT GAATTAAGACCAGGGCTAGAGTCAACAGTCCAGAACCCCTATCCGTATGAACAGGGGCCCGTTTCTGGTTGAAAT CAAGGTTAGGATGCAACTGAGAAAATAAAAGACTGCACTTTGGAGAGGCAAGCACGCTATCCGGGTTGTTGTTTT GTTTTATGTCTTGGTGCTTAGGTGAGGACTTAGCTGGGTTTATTCAAAGTGGGCGGGTCTGGGCTATTCTTGAGA ATGTCCCTTCCATTTCTGAGAACAAGTCAGCCCCTTCTACCTGCCTCCACCCAGGAGACTGATGCACAAGATCTG GACCGTGGGGATGGCGGCCTGAGATTCTGTCAGTGGGACCACCCTGGGCCTCCTTTCTACCTCCACTCAGCACC $\tt CTGTTGGCCAAGGAGAATTTCTGCGGTGGGAGGCAGTGCTCTGCTAGTCAGGATTGATAAACAGCTGGGCACACC$ TGAGTGGATGGATGCAGAAAAATCTGGGCTGAGCCAAAGTCCCTTTTGGAAATACAAGCCATAACATTCGAAGGA CATCAGCGACCTTGGCTTGTTTAGGTGATTTTACTTCCAGCTGCAGGTAGTCTTGACAAGGAGTGTTTAAACAGA AGGCTCAAGATGCATTCCTTGTGTAGGTCGGAGAGAGCACTTCTAATGTTAAGTGGGGTACAGATCAGCTGCCCC CCCACGTAGCCTGGACATCGTCTTATCCCCATAATCCTTGCCATCCCTACAAGGCCCATCGCCACCACCTTTTCC CAGGTTTATTGAGGTATGATTGACATCCAGTAAAATTCACCCTTTGGAAATATACAGCTCTGTGAATTTTGACAA ATTTAGTGTCTTGTGACCATCACCAAGATCAACCTGTTTTTAACCCTCCAAAAAATTCCCTTCTCCTGCCCTCTT TCCCTGGCAACCCTGATTGATTATCTGATCCTATAATTTTGCCTTTTCTAGAATGTCATATAAATGGAGTCACAC TTGTTCCTTCTCCTTGCCGGGAAGTATTTCATTGCATGGGCGTACTACTCTGCTTCTTTATTTTTACACTGAGCC TTCCCCAGGCTCCTCCAAATGCCAGCTGTGCCCACAAGCTGTTCTTAGGGCTCACACTCGCCTTTTGGCGCG ACGTCTGCTGCAACCTGAAGCTTGCATCTCAGCCAGCAGATCTGCTCCCTTCTGGGACCCAGGCTTCAGTGTCAC ACGGTCCTTGGCTATGTATTGGGCGTTGGAGGCTTTGAAAGGCGAGCAGAAGCAGCATGGACAAGAAGGCTGGGG GAGTGTCTCAGGCCACCGGCAACTGCATGTACCTCCTCCCTTTCTCATTTCCAATGATGTACCCTGTACACGTGT TACTTTTCCATTTAGATTCAAATGGAGCTAAAATTAAGAGTTTTATGAGCTGTTAAGAATGAGGTAGTTTCTCCT AGGACCCCCAAAGACAGTGCAAGTAATGACCGTTTGGATCTCATTCGTCGATCTTTGATAGTATGTTCTGGAGT CTACTCCCCAGGAGCCAGGACAGGCGTGAAGATGGAGTCCTTGTCGCAGCTGGAGCCTTGCCTAGCTGGTGATCA CACAGCCTGGCCTGTACCTGCACCCCACTGGATGGTGGTACATGGTGGCAGGGACAGGACCACACCCCAGTTAAGG CCAGACCAGGCTGAGTGTGACCCCTGAGGTAAACACTCCACTAAGCTGTGTCTTGTTCATGCCCCCTGCTCAGTG AAAGGTGAGTCCCGAGACCAGTTGGGTACCTCTCTATGCGAACCAGAGACATTTCTGGATCCAGGCCAGGTGAAG ATTAGGGCCAGGAAGCCTGAGCCCCCGGGGCCTCAAGGTAGGGAGCCGAAGAGGCTGCCAGGACTCTGCTGGGTT GAAATTTGCCGGGGAGGACTCTTGTCTCCCCCTCAGGAGTATTTTTGTTGAGGCTTTCCTGGAGGTGAAGAAGCA ATTCCCATTGCAGCAGGTTAGAGCGAGAATCAGACAGAGGGCAAAAACCAATTCGCTTCTCCCCACGTTCTAAAT GCTGGGGCATGGCTGTCAGGAGGGCTTCCTGGGAGGTGTCTCTGGGGGTGAGGTTGGGGCGATGGCCTTT GGAGATTGCGTGTGGTGTTCAGGACTGTTCCTTGGTGTTTTGAGGGAAACTTTAGTGGGATTGCAGTGGAATGTAA

5121/6881 FIGURE 4723C

GCTGTCCTGAGCCTGAGTACTCTAGCTGCCTTGTCGCCATCGCATCTGGCTGCCATCCAGCGCCAGCACACAGTA ATGAGTGGCCGAGCTTCCTCTGGGAGGGAGAAACAGTTAAAATCTTGCAGCAGCTGCAATCATCTAGGCGTGGT ${\tt TCTCTTGTCTGACTTGGGCTGCACAGATCCTGGGCCAAGGGACAGAAGAAGAAGACAGCCTAGGAGCAGAGCCTCCCC}$ AGCTTGGCAGGGAGACGGAGACAGGACAGCGACTCTGCAGAGCAGGGGGATCCTGCTGGTGAGGGGAAAGAGG TCCTGTGTGACTTCTGCCTTGATGACACCAGAAGAGTGAAGGCAGTGAAGTCCTGTCTAACCTGCATGGTGAATT ACTGTGAAGAGCACTTGCAGCCGCATCAGGTGAACATCAAACTGCAAAGCCACCTGCTGACCGAGCCAGTGAAGG ACCACAACTGGCGATACTGCCCTGCCCACCACAGCCCACTGTCTGCTTTCTGCTGCCCTGATCAGCAGTGCATCT GCCAGGACTGTTGCCAGGAGCACAGTGGCCACACCATAGTCTCCCTGGATGCAGCCCGCAGGGACAAGGAGGCTG ACCAAAAGTCTGTTCTGGTGTCGGTGTCAGAGGTCAAAGCGGTGGCTGAAATGCAGTTTGGGGAACTCCTTGCTG CTGTGAGGAAGGCCCAGGCCAATGTGATGCTCTTCTTAGAGGAGAAGGAGCAAGCTGCGCTGAGCCAACG TCAGCAACACTGTCCAGTTCTTGGAGGAGTACTGCAAGTTTAAGAACACTGAAGACATCACCTTCCCTAGTGTTT ACGTAGGGCTGAAGGATAAACTCTCGGGCATCCGCAAAGTTATCACGGAATCCACTGTACACTTAATCCAGTTGC TGGAGAACTATAAGAAAAAGCTCCAGGAGTTTTCCAAGGAAGAGGAGTATGACATCAGAACTCAAGTGTCTGCCG TTGTTCAGCGCAAATATTGGACTTCCAAACCTGAGCCCAGCACCAGGGAACAGTTCCTCCAATATGCGTATGACA TCACGTTTGACCCGGACACAGCACACAAGTATCTCCGGCTGCAGGAGAGAACCGCAAGGTCACCAACACCACGC CCTGGGAGCATCCCTACCCGGACCTCCCCAGCAGGTTCCTGCACTGGCGGCAGGTGCTGTCCCAGCAGAGTCTGT ACCGGAAAGGGGAGGAGCGCAACAGTTGCATTTCCGGAAACAACTTCTCCTGGAGCCTCCAATGGAACGGGAAGG AGTTCACGGCCTGGTACAGTGACATGGAGACCCCACTCAAAGCTGGCCCTTTCCGGAGGCTCGGGGTCTATATCG ACTTCCCGGGAGGGATCCTTTCCTTCTATGGCGTAGAGTATGATACCATGACTCTGGTTCACAAGTTTGCCTGCA AATTTTCAGAACCAGTCTATGCTGCCTTCTGGCTTTCCAAGAAGGAAAACGCCATCCGGATTGTAGATCTGGGAG $AGGAACCCGAGAAGCCAGCACCGTCCTTGGGGGTGACTGCTCCC\underline{TAG}$ ACTCCAGGAGCCATATCCCAGACCTTTG CCAGCTACAGTGATGGGATTTGCATTTTAGGGTGATTTGTGGGCAGAAATAACTGCTGATGGTAGCTGGCTTTTG AAATCCTATGGGGTCTCTGAATGAAAACATTCTCCAGCTGCTCTCTTTTGCTCCATATGGTGCTGTTCTCTATGT GTTTGCAGTAATTCTTTTTTTTTTTTTTGAGACGGAGTCTCGCACTGTTGCCCCAGGCTGGAGAGCAGTGGCGCGAA TCTTGGCTCACTGCAAGCTCCGCCTCCCGAGTTCAAGCAATTCTCCTGCCTCAGCCTCCCGAGTAGCTGGGATTA CAGGTGCCTGCCACCACACCCAGCTAATGTTTTGTATTTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCA GATCTCAAACTCCTGACCTCGTGATGCACCCACCTCGGCCTCCCAAAGTGCTGGGATTACATGCGTGAGCCACTG CGCCCTGCCTGTTTGTAGTAATTTTTAGGCACCAAATCTCCCTCATCTTCTAGTGCCATTCTCCTCTCTGTTCAG GTAAATGTCACACTGTGCCCAGAATGGATGACCAGGAACCTTAAAGAGTGGCTGAAAAGATTGCAGAGTTATCAT AATAAATTGCTAACTTGCGT

MAELDLMAPGPLPRATAQPPAPLSPDSGSPSPDSGSASPVEEEDVGSSEKLGRETEEQDSDSAEQGDPAGEGKEV LCDFCLDDTRRVKAVKSCLTCMVNYCEEHLQPHQVNIKLQSHLLTEPVKDHNWRYCPAHHSPLSAFCCPDQQCIC QDCCQEHSGHTIVSLDAARRDKEAELQCTQLDLERKLKLNENAISRLQANQKSVLVSVSEVKAVAEMQFGELLAA VRKAQANVMLFLEEKEQAALSQANGIKAHLEYRSAEMEKSKQELERMAAISNTVQFLEEYCKFKNTEDITFPSVY VGLKDKLSGIRKVITESTVHLIQLLENYKKKLQEFSKEEEYDIRTQVSAVVQRKYWTSKPEPSTREQFLQYAYDI TFDPDTAHKYLRLQEENRKVTNTTPWEHPYPDLPSRFLHWRQVLSQQSLYLHRYYFEVEIFGAGTYVGLTCKGID RKGEERNSCISGNNFSWSLQWNGKEFTAWYSDMETPLKAGPFRRLGVYIDFPGGILSFYGVEYDTMTLVHKFACK FSEPVYAAFWLSKKENAIRIVDLGEEPEKPAPSLGVTAP

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5127/6881 FIGURE 4729

 ${\tt MQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHLVLRLRGGMQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHLVLRLRGGMQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHLVLRLRGGC}$

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5129/6881 FIGURE 4731

MFPGSLSRGRRAAVEMAWLPGSCARVAFAAGAAARYWTAWQGSAGPNPAAVAEAHGSLFCGRATSARAWSLRRPG PGSPAHSGGVQTRENWIAYPLQSAEDGVATRLQIREESASCLAAEYWSQEPAMRF WO 2004/030615 PCT/US2003/028547

5130/6881 FIGURE 4732

 ${\tt TCCAGCCCTTCTCCTGTGTGCCTGCCTCCTGCCGCCGCCACC} \underline{{\tt ATG}} {\tt ACCACCTCCATCCGCCAGTTCACCTCCTCC}$ AGCTCCATCAAGGGCTCCTCTGGCCTGGGGGGGCGCTCGTCCCGCACCTCCTGCCAGCTGTCTGGCGGCCTGGGT GCCGGCTCCTGCAGGCCGGGATCTGCTGGTGGCCTGGGCAGCGCCCTCGGGGGTAGCAGCTACTCCAGCTGCTAC AGCTTTGGCTCTGGCGGTGGCTATGGCAGCAGCAGCTTTGAGGGCGTTGATGGGCTGCTGGTCGGAGGTGAGAAG AGGATAATCGAGGAGCTGCAGAACAAGATCCTCACAGCCACCGTGGACAATGCCAACATCCTGCTACATATTGAC AATGCCCATCTGGCTGCTGACTTCCGCACCAAGTTTGAGACAGAGCAGGCCCTGTGCCTGAGTGTGGAGGCC GACATCAATGGCCCGTGCAGGGTGCTGGATGAGCTGACCCTGGCCAGAGCCGACCTGGAGATGCACATTGAGAAC CTCAAGGAGGAGCTGGCCTACCTGAAGAAGAACCACGAGGAGGAGGATGAACGCCCCGCGAGGCCAGGTGGGCGGT GAGATCAATGTGGAGATGGGCGCTGCCCCAGGTGTGGACCTGAGCCGCATCCTGAATGAGATGCGTGAGCAGTAT GAGAAGATGGCAGAGAAGAACCGCAAGGATGCCGAGGATTGGTTCTTCAGCAAGACAGAGGAGCTGAACCGCGAG GTGGCTACCAACAGTGAGCTGGTCCAGAGCGGCAAGAGCGAGATTTCGGAGCTCCGGTGCACCATGCAGGCCTTG GAGATCGAGCTGCAGCTCAGCATGAAAGCATCCCTGGAGGGCAACCTGGCGGAGACAGAGAACCGCTAC TGCATGCAGCTGTCCCAGATCCAGGGGCTGATCGGCAGTGTGGAGGAGCGGCTGGCCCAGCTTCTCTGCGAGATG GAGCAGCAGAACCAGGAGTACAAGATCCTCCTGGACATGAAGATGCGGCTGGAGCTGGAGATCACCACCTACCAC ATTGTGGAAGAGGTCCAGGATGGTAAGGTCATCTCCTCCCGCGAGCAGGTCCGCCAGACCACCCCGC<u>TGA</u>GCACTC AGCTTTCCTGGCCGGCCCCCAGGAGGCAGGGAGGCAGCGGTCCCATCTGCCCCGCGGTCTCCGGCCTCTCCACC CTCAGCCCCTGCTTCAGTCCCTTCCCCATGCTTCCCTGCGTGATGACAATAAAGCTCGTTGACTCAGCT

MTTSIRQFTSSSSIKGSSGLGGGSSRTSCQLSGGLGAGSCRPGSAGGLGSALGGSSYSSCYSFGSGGGYGSSSFE GVDGLLVGGEKATMQNLNDRLASYLDKVRALEEADTELEVKIRDWYQRQAPGPARDYSQYYRIIEELQNKILTAT VDNANILLHIDNAHLAAADFRTKFETEQALCLSVEADINGPCRVLDELTLARADLEMHIENLKEELAYLKKNHEE EMNAPRGQVGGEINVEMGAAPGVDLSRILNEMREQYEKMAEKNRKDAEDWFFSKTEELNREVATNSELVQSGKSE ISELRCTMQALEIELQSQLSMKASLEGNLAETENRYCMQLSQIQGLIGSVEERLAQLLCEMEQQNQEYKILLDMK MRLELEITTYHRLLEGEDAHLTQYKKEPVTTCQVPTIVEEVQDGKVISSREQVRQTTR

 ${\tt MAPSRNGMVLKPHFHKDWQRRVATWFNQPARKIRRRKGPASQGAPHRSAPRVGSHPAHRALPHGSVPHEGARRPRLQPGGAPGWPAFTRRWPGPSAFLWIQTHPLPQEALGPQEGRQFC}$

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5135/6881 FIGURE 4737

 $\tt GTAGAGTGCGCGACCTTTTGGCGACCCCGACCTCTGGCTAACCTACCCCCGGAGCC{\color{red} \underline{ATG}} GCCTCTGCTGGGGTGG$ CAGCCGGGCGACAGGCGGAGGATGTATTGCCGCCAACGTCCGACCAGCCGCTGCCTGACACCAAGCCGCTGCCGC CGAGGGAGGAGGACTACTCCTTTTTACCTTTGGTTCACAACATCATCAAATGCATGGACAAGGACAGCCCAG AGGTCCACCAGGACCTGAACGCCCTCAAAAGCAAGTTCCAGGAGATGCGCAAGCTCATCAGCACCATGCCCGGCA TCCACCTGAGCCCGAACAGCAGCAGCAGCAGCTGCAGAGCCTCCGGGAGCAAGTCAGGACCAAGAATGAGCTTC GGAAGCCAATGGCCTGTCTCCCCACTACCATCCCCAAACGCTCCTTGGGGCGTGGTTCCTGTGGACCCCAGCTCA GCTCGTCAAGCTGCAGGGGCGGGGCTCCTGTGCTGCTGCGCGGGCTTCGCCTGTGCGGGAGCCAGCAGCAGTT GGCTGCGCGGGGGTTCCTCGTGTAGATCCATATGTCTAGATGCATAATAACTGGAGTGCCTGCTGGTGGAAGTC AGAATGCTCCTGGAGGCTGCAGAGGGGGTGGAGGACTCTCCCCTGCCTCTGGGGAGGGGGCCATCTGCTGCGCCC CCACCCCATAGGATCAGTGTGCCAGGTACACATTGTTCCTGTTAACAGCAGCTTCTTGAAACATTTGCATAG AATTCACTGGACGAATTAAGCCTGCACTCATATGGCATAGAATTGTGAGAGAATGTTTTGAAAGGCCAGAGGGTG GCCTTTTTCCCCAAACAGTTTGGTTCCTTTTATGTTTGAGCCAGTGAAGGGAACTACGCTTTGGGGGCCTTCAGCC TAGAGCCCTGCCAGGCAGCCCCTGGCTCCAGGTTCCCTGCCTCCTAGCGCTCTCCTCGCCTTCAGCTCTTGCTCC CTTCCTCGTTCATCACCCTCAGTCAGTGCCCAAGAGTGGCCAAACCGCTTCACATCTGCAGTGCTTCCCCAGGGT TGACAAGGGGCCGTCCTTTCCACACAGGCCAGAAGAGGTCTTCAGGCGAACCGACCTTCCCCCTTCTGGCATTTC AGATTCCCCTTGCTCTGGTTAAAAGGTCTTTCCCTCGTGGCCTTTGCACTTGCGGCAGCAACGTGTACTACACTG CAGAAGGGTTCAGTATGCACCTTGTGTTGAGAGAGAGGCAACCCTGGGGGCCAGTTCAGGTGGTCCCCAACCATA GGCTAGGTCTGAAAGTTACACAGCCAAGTTTGAGCTCTTAAAAGTTGATGAACAGCCTCATTTCCCCAGCTTCCC TGATTTCTTCCAGATGGGACGTTTTATTTGTGTGCTCTCCCTTGACTGTCAGATTGAAGTAAGAGCAGTTCTCTC CGTTGCCTCTCGAGGAGGAGGTGCGAAGTCCTGGAGTATTGTTTGGGTCTCGGAATGGGCGCATAACCTGCGCTG ACCAGTTTAGGGGCTTAGCAGATGCCTGCCAGCTGACCTCGTTGGCAGGAGGGTTGGGTGGAGATGTTTTTAGCA GGAGGAGATCAAATTTCAGTGGCTTTGGACAGAAAAGAAGGCTCTGGATTTAAGCGGGTGGTCACCTGTGAGACC TAAGGCTCTGACAGATACCACGAAACATGAAGCACGTGGAACTACAAGACCCCCGGGGTCTTTCTGAGTGCAAGG ATTTTTCAAACACATAATTAAAAGGACTTATGCTCTGCTGTCTCAGG

MASAGVAAGRQAEDVLPPTSDQPLPDTKPLPPPQPPPVPAPQPQQSPAPRPQSPARAREEENYSFLPLVHNIIKC MDKDSPEVHQDLNALKSKFQEMRKLISTMPGIHLSPEQQQQQLQSLREQVRTKNELLQKYKSLCMFEIPKE

MASAGVAAGRQAEDVLPPTSDQPLPDTKPLPPPQPPPVPAPQPQQSPAPRPQSPARAREEENYSFLPLVHNIIKW

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5139/6881 FIGURE 4741

GCCCTGCCAGCCCCAGACAAGGGCACAGAAACAGCCAGGCCACACCAACTACAGCAGCTATTCCAAGCGGAAGCG CCTCACTCGGGGCCGGGCCAAGAACACCACCTCTTCACCCTGTAAGGGGCGTGCCAAGCGACGACGACAGCAGCA GGTGCTGCCCCTGGATCCCGCAGAGCCTGAAATCCGCCTCAAGTACATTTCCTCTTGCAAGCGGCTGAGGTCAGA CAGCCGGACCCCGCCTTCTCACCCTTCGTGCGGGTGGAGAAGCGAGACGCGTTCACCACCATATGCACTGTTGT ${\tt CAACTCCCTGGAGATGCGCCCAAGCCCCACAGGAAGCCTTCCTCCTCTGCCTCCTCTTCCTCATCCTCGTCCTC}$ GTTCTCCTTGGATGCAGCCGGGGCCTCCCTGGCCACACTCCCTGGAGGCTCCATCCTGCAGCCGCGGCCCTCCTT GCCCCTCTCCTCCACGATGCACTTGGGGCCTGTGGTTTCCAAGGCCCTGAGTACCTCTTGCCTTGTTTGCTGCCT CTGCCAAAACCCGGCCAACTTCAAGGACCTTGGGGACCTCTGTGGGCCCTACTACCCTGAACACTGCCTCCCCAA AAAGAAGCCAAAACTCAAGGAGAAGGTGCGGCCAGAAGGCACCTGTGAGGAGGCCTCGCTGCCGCTTGAGAGAAC ACTCAAAGGTCCCGAGTGTGCAGCTGCCGCCACTGCCGGGAAGCCCCCCAGGCCTGACGGCCCAGCTGACCCGGC CAAGCAGGGCCCACTGCGCACCAGTGCCCGGGGCCTGTCCCGGAGGCTGCAGAGCTGCTACTGCTGTGATGGCCG GGAGGATGGGGGCGAGGAGGCAGCCCCAGCCGACAAGGGTCGCAAACATGAGTGCAGCAAGGAGGCTCCGGCAGA GCCCGGCGGGAGGCCCAGGAGCACTGGGTGCATGAGGCCTGTGCCGTGTGGACCGGCGGCGTCTACCTGGTGGC CGGGAAGCTCTTTGGGCTGCAGGAGGCCATGAAGGTGGCCGTGGACATGATGTTTCCAGCTGCCAAGAAGCCGG GGCCACCATTGGGTGCTGCCACAAAGGATGCCTCCACACCTACCACTACCCGTGTGCCAGCGATGCAGGTTGCAT ATTCATCGAAGAGAACTTTTCTTTGAAATGTCCCAAACATAAGAGGCTGCCGTAGTAATCCACCCCAACGGCCGG AGGAGCCGCCGGAGCCCGCCTGCCCGCCGCCGAAGGAGAGGAGCCGCCTGCGCAGCCCCCGGGCCTTTGAG CTGCTCCCAGCGCTGGTCCAGAGCCGATCCTTGATCCGGGTCCCGGATCGTGGATCCGGCCGCCTAGGGCTCAGA CTTGCGGCCCCGGGTTGGGAGGAAAACCCGTTCCGGAGCCGCCTGCTCCCGGAACCGGACGGCACAGGGCGTTCT TGCCCACCCCAGGGGCCAGGCTTGCGGAGGGGGAGCCCGCGGAGCCGCCAGACTCCCCGGGGCCCTCAGCCTCCG GCGAGGGTGGGAGACGGCTTTGTCCTGGGGACACTTTCCCTCTGGAATCTCAAGACGACGTGGCACACATTCCAC GTGGGTGCTGCCGCCACCCCAGTCGGTCGTGGCGTGCAGCTGGGAGCCCTGGGCTTGGGGGTGGGGGTCGAAACA GTACTGGAAGAGGCGGAGGCCGCTCCTAGCTCCGTGGACTAGGCGGGGGAGAAAGGAAAGCCTTTCTGAGAGCGG GCTAGGCCGGCACTGGAGAGGCCGGAGCCTTTGGAACAAACCGTGCGGAACGCGTCCAGGGGCCTTCCCGCCCAG CCTTTGCCAGATCTCTCGTGCGGTTCGGGCAAAGCCGGGGTAGACCTGGGCTATGCTCAGTTAGGGGTTGCGGGA ${\tt TCCCCGAGTGTGGGCGGGACTGGGACACCCTTTGGCCTCTGTTTGTCCCCTTTCCAGTCCTCCACCCCACCCCTG}$ GAGCCCAGCCTGGGAGCGCAAAACCCAAGAAGCGGCCAGAACGCACCTCCGGCTCCGGCGGACGCGCGACCGTTG TGCACCACGGGACCGCCCCTACTCTGCACGGGAGCAGGGACAGCGCTAGATTTCGTGTACAAAACCTGTG TACCCCTCTATATATATGTTACATAGAATGTATATATGTTGGGAACATGCTCGCTTCTCCCGTGTGTCGCCGCCG TGCGTCGTGCGCCCGCAACAGAGCCCCAACCGGGCCTTTGCCGGGTAAGGGGCTACCGCGACGCCACTTGTCCAC TTCGATAGGCCTGACGCAGCCCAGCCCAGGCCCTAGCAACTTCCTGTACATATGACTGTAAAATGGTAA GACTGTAAATGTTAAGACGACTAGTGTTCTTATTAGTATATTGCTTCACACTGAAGATTGTGTGTATCGAGCTGT TAAAGATACAACGATTGTTTTGGAAAA

5140/6881 FIGURE 4742A

TCTGGACGCGCGCTGCTGACCGACATCGAAGACATGCTTCAGCTTATCAACAACCAAGACAGTGACTTCCCTGG TGGTATCAAGGAAGAGTCAGTGCCACTGAGCATCCTGCAGACCCCCACCCCACAGCCCCTGCCAGGGGCCCTCCT GCCACAGAGCTTCCCAGCCCCAGCCCCACCGCAGTTCAGCTCCACCCCTGTGTTAGGCTACCCCAGCCCTCCGGG GGTCCCGCCCGTCTCCTTGCACACCCAGGTCCAGAGTGTGGTCCCCCAGCAGCTACTGACAGTCACAGCTGCCCC CACGGCAGCCCCTGTAACGACCACTGTGACCTCGCAGATCCAGCAGGTCCCGGTCCTGCTGCAGCCCCACTTCAT GGTCTCTGGCACCACTGTGCAGACAGGGCCTTTGCCGACCCTGGTGAGTGGCGGAACCATCTTGGCAACAGTCCC ACTGGTCGTAGATGCGGAGAAGCTGCCTATCAACCGGCTCGCAGCTGGCAGCAAGGCCCCGGCCTCTGCCCAGAG CCGTGGAGAAGCGCACAACGCCATTGAGAAGCGCTACCGCTCCTCCATCAATGACAAAATCATTGA GCTCAAGGATCTGGTGGTGGGCACTGAGGCAAAGCTGAATAAATCTGCTGTCTTGCGCAAGGCCATCGACTACAT TCGCTTTCTGCAACACAGCAACCAGAAACTCAAGCAGGAGAACCTAAGTCTGCGCACTGCTGTCCACAAAAGCAA ${\tt ATCTCTGAAGGATCTGGTGTCGGCCTGTGGCAGTGGAGGGGAACACAGACGTGCTCATGGAGGGCGTGAAGACTGA}$ GGTGGAGGACACCTGACCCCACCCCCTCGGATGCTGGCTCACCTTTCCAGAGCAGCCCCTTGTCCCTTGGCAG ${\tt CAGGGGCAGTGGCAGTGGCAGTGACTCGGAGCCTGACAGCCCAGTCTTTGAGGACAGCCAAGGCAAA}$ GCCAGAGCAGCCGCCTCTCTGCACAGCCGGGGCATGCTGGACCGCTCCCGCCTGGCCCTGTGCACGCTCGTCTT CCTCTGCCTGCAACCCCTTGGCCTCCTTGCTGGGGGCCCGGGGGCTTCCCAGCCCCTCAGATACCACCAG GCCCCCAGTGGTCTGGCTGCTCAATGGGCTGTTGGTGCTCCTTTGTGTGCTTCTTTTTTCTACGGTGAGCC AGTCACACGGCCCCACTCAGGCCCCGCCGTGTACTTCTGGAGGCATCGCAAGCAGGCTGACCTGGACCTGGCCCG GGCAGGCCGGGCAGGGGCCTGCAGCAGGACTGTGCTCTGCGAGTGGATGCTAGCGCCAGCGCCCGAGACGCAGC CCTGGTCTACCATAAGCTGCACCAGCTGCACACCATGGGGAAGCACACAGGCGGGCACCTCACTGCCACCAACCT GGCGCTGAGTGCCCTGAACCTGGCAGAGTGTGCAGGGGATGCCGTGTCTGTGGCGACGCTGGCCGAGATCTATGT GGCGGCTGCATTGAGAGTGAAGACCAGTCTCCCACGGGCCTTGCATTTTCTGACACGCTTCTTCCTGAGCAGTGC CCGCCAGGCCTGCCTGCACAGAGTGGCTCAGTGCCTCCTGCCATGCAGTGGCTCTGCCACCCCGTGGGCCACCG TTTCTTCGTGGATGGGGACTGGTCCGTGCTCAGTACCCCATGGGAGGCCTGTACAGCTTGGCCGGGAACCCAGT CAACCCCAGCCCTGGGTCAGCTGATGGGGACAAGGAATTCTCGGATGCCCTCGGGTACCTGCAGCTGCTGAACAG CTGTTCTGATGCTGCGGGGGCTCCTGCCTACAGCTTCTCCATCAGTTCCAGCATGGCCACCACCACCGCGTAGA CCCGGTGGCCAAGTGGTGGCCTCTCTGACAGCTGTGGTGATCCACTGGCTGCGGGGGATGAGGAGGCGGCTGA GCGGCTGTGCCCGCTGGTGGAGCACCTGCCCCGGGTGCTGCAGGAGTCTGAGAGACCCCTGCCCAGGGCAGCTCT GCTGTTCCTGTGTGACCTGCTTCTTGTGGTGCGCACCAGCCTGTGGCGGCAGCAGCAGCCCCGGCCCCGGCCCC AGCAGCCCAGGGCCCAGCAGCCCCAGGCTTCCGCCCTTGAGCTGCGTGGCTTCCAACGGGACCTGAGCAG CCTGAGGCGGCTGGCACAGAGCTTCCGGCCCGCCATGCGGAGGGTGTTCCTACATGAGGCCACGGCCCGGCTGAT GGCGGGGGCCAGCCCCACACGGACACCAGCTCCTCGACCGCAGTCTGAGGCGGCGGGCAGGCCCCGGTGGCAA AGGAGGCGCGGTGGCGGAGCTGGAGCCGCGGCCCACGCGGGGGGAGCACGCGGAGGCCTTGCTGCTGCTCCTG GAAGCTTGGCGATCGCCGGCTGCTGCACGACTGTCAGCAGATGCTCATGCGCCTGGGCGGTGGGACCACTGTCAC

5141/6881 FIGURE 4742B

MDEPPFSEAALEQALGEPCDLDAALLTDIEDMLQLINNQDSDFPGLFDPPYAGSGAGGTDPASPDTSSPGSLSPP PATLSSSLEAFLSGPQAAPSPLSPPQPAPTPLKMYPSMPAFSPGPGIKEESVPLSILQTPTPQPLPGALLPQSFP APAPPQFSSTPVLGYPSPPGGFSTGSPPGNTQQPLPGLPLASPPGVPPVSLHTQVQSVVPQQLLTVTAAPTAAPV TTTVTSQIQQVPVLLQPHFIKADSLLLTAMKTDGATVKAAGLSPLVSGTTVQTGPLPTLVSGGTILATVPLVVDA EKLPINRLAAGSKAPASAQSRGEKRTAHNAIEKRYRSSINDKIIELKDLVVGTEAKLNKSAVLRKAIDYIRFLQH SNQKLKQENLSLRTAVHKSKSLKDLVSACGSGGNTDVLMEGVKTEVEDTLTPPPSDAGSPFQSSPLSLGSRGSGS GGSGSDSEPDSPVFEDSKAKPEQRPSLHSRGMLDRSRLALCTLVFLCLSCNPLASLLGARGLPSPSDTTSVYHSP GRNVLGTESRDGPGWAQWLLPPVVWLLNGLLVLVSLVLLFVYGEPVTRPHSGPAVYFWRHRKQADLDLARGDFAQ AAQQLWLALRALGRPLPTSHLDLACSLLWNLIRHLLQRLWVGRWLAGRAGGLQQDCALRVDASASARDAALVYHK LHQLHTMGKHTGGHLTATNLALSALNLAECAGDAVSVATLAEIYVAAALRVKTSLPRALHFLTRFFLSSARQACL AQSGSVPPAMQWLCHPVGHRFFVDGDWSVLSTPWESLYSLAGNPVDPLAQVTQLFREHLLERALNCVTQPNPSPG SADGDKEFSDALGYLQLLNSCSDAAGAPAYSFSISSSMATTTGVDPVAKWWASLTAVVIHWLRRDEEAAERLCPL VEHLPRVLQESERPLPRAALHSFKAARALLGCÁKAESGPASLTICEKASGYLODSLATTPASSSIDKAVOLFLCD LLLVVRTSLWRQQQPPAPAPAQGASSRPQASALELRGFQRDLSSLRRLAQSFRPAMRRVFLHEATARLMAGASP TRTHQLLDRSLRRRAGPGGKGGAVAELEPRPTRREHAEALLLASCYLPPGFLSAPGORVGMLAEAARTLEKLGDR RLLHDCQQMLMRLGGGTTVTSS

TTTCTCTGGAGGAGCTCCGCGCGTGGCGAGTCTGTGTCCTCCCTGTCCCCCAGAGCAGÂGAACCCTCTCTGTGTC TGGACCGGGGAGGAGCAGACGCTGGACAGGGTGTGTGTTCAGCAGTGGATTGTCAGACTTGGGGTCCCGGCTG CTCCCTTTTGGGTCTCCCCCGGGCCCGCTGATCTGACTGTAATTCCTTCTGCTGGAGCTAGGGTTCGGCCACCT TGAGGCAGGTAGCGCCCAAGGCTCCTGTACCAGGGCCAGGTTAGGCACCAACGCGTCCCTTATGTCTCTGCAGCC CACATTTTCAGAGAGTGGTATTGCTCCGATGTGAGTGTAGGCAGGTTACTCTCTGTGTCTCGTGTTCTTTACCTG TAATTTGAGGTTTGTTGTACCTACTTTTAAGTGGTGGTTGTGAGGATTAAATGGAATTTTGACATGCAACAGTTG GTACGTAAGAAGGAAACACCCAAGAATGAAAAGTAGCTTGTTGTAGGTCACCCAGCCAACTAGCACATAGGGGAA ATTAGAATCCAGGCACTCCCAGCAGGGCACTTTCCACCACCCTGCACTTTTGTATTCATCAGGCACAATATCCTT ACTGTTGTCTGTAACTGTCTATGTTCCCAGTGTCTGACTCTGCAGGGCCCTGGTGGTATAAAGGTACTGAGACTT GCCTGTGTTTAGGGCTTCCTGAAGATTAAATGGCTGCTGAAGTTCTTGAGTTTAGCTTTAGCTCAAAAGATACTG CGTCAGACTCTGCGTTCTGAGTAGAGTCTCAGACAATGAAAAAAGAAATACAATGAAAAAGGGGGAAAACTTCAAT CCAGAATCTCTTGCCACAGTTTTTGGCAGAATGCTGGCAATTCCCAGGAAGATATGTGGAGAACGGAAAGGTTGC TACACCCAAATAGTGGCGCAAAGGCTATGATTATGGAGGATTGGACCTGCAAACTCCAGAACAGAGTTCTGCCCT CTGAGGACCCTGCCCTTTCCCAAAAGGGGTATCTTAAGAAGGAAAATATGGCTGCTCTTTGCCGGACAGCAGAGT GCTCCAGGCTAACCAAAAGTCTGTTCTGGTGTCGGTGTCAGAGGTCAAAGCAGTGGCTGAAATGCAGTTTGGGGA ACTCCTTGCTGCTGTGAGGAAGGCCCAGGCCAATGTGATGCTCTTCTTAGAGGAGAAGGAGCAAGCTGCGCTGAG CCAGGCCAACGGTATCAAGGCCCACCTGGAGTACAGGAGTGCCGAGATGGAGAAGAGTAAGCAGGAGCTGGAGAC GATGGCGGCCATCAGCAACACTGTCCAGTTCTTGGAGGAGTACTGCAAGTTTAAGAACACTGAAGACATCACCTT CCCTAGTGTTTACATAGGGCTGAAGGATAAACTCTCGGGCATCCGCAAAGTTATCACGGAATCCACTGTACACTT AATCCAGTTGCTGGAGAACTATAAGAAAAAGCTCCAGGAGTTTTCCAAGGAAGAGAGGAGTATGACATCAGAACTCA AGTGTCTGCCATTGTTCAGCGCAAATATTGGACTTCCAAACCTGAGCCCAGCACCAGGGAACAGTTCCTCCAATA TGTGCATGACATCACGTTCGACCCGGACACAGCACACAAGTATCTCCGGCTGCAGGAGGAGAACCGCAAGGTCAC CAACACCACGCCCTGGGAGCATCCCTACCCGGACCTCCCCAGCAGGTTCCTGCACTGGCGGCAGGTGCTGTCCCA CAAAGGCATCGACCAGAAAGGGGAGGAGCGCAGCAGTTGCATTTCCGGAAACAACTTCTCCTGGAGCCTCCAATG GAACGGGAAGGAGTTCACGGCCTGGTACAGTGACATGGAGACCCCACTCAAAGCTGGCCCTTTCTGGAGGCTCGG .GGTCTATATTGACTTCCCAGGAGGGATCCTTTCCTTCTATGGCGTAGAGTATGATTCCATGACTCTGGTTCACAA GTTTGCCTGCAAGTTTTCAGAACCAGTCTATGCTGCCTTCTGGCTTTCCAAGAAGGAAAACGCCATCCGGATTGT AGATCTGGGAGAGCCCGAGAAGCCAGCACCGTCCTTGGTGGGGACTGCTCCCTAGACTCCAGGAGCCATATC CCAGACCTTTGCCAGCTACAGTGATGGGATTTGCATTTTAGGGTGATTTGGGGGCCAAAAATAACTGCTGATGGTA GCTGGCTTTTGAAATCCTATGGGGTCTCTGAATGAAAACATTCTCCAGCTGCTCTCTTTTGCTCCATATGGTGCT GTGCAGTGGCGTGATCTTGGCTCACTGCAAGCTCCGCCTCCCGAGTTCAAGCAATTCTCCTGCCTCAGCCTCCCG AGTAGCTGGGATTACAGGTGCCTGCCACCACCCAGCTAACGTTTTGTATTTTTAGTAGAGATGGGGTTTCACC ATGTTGGCCAGGCAGATCTCAAACTTCTGACCTCGTGATGCACTCACCTCGGCCTCCCAAAGTGCTGGGATTACA GGCGTGAGCCACTGCCCTGCCTGTTTGTAGTAATTTTTAGGCACCAAATCTCCCTCATCTTCTAGTGCCATTC TCCTCTCTGTTCAGGTAAATGTCACACTGTGCCCAGAATGGATGACCAGGAACCTTCAAGAGTGGCTGAAAAGAT TGCAGAGTTATCATAATAAATTGCTAACTTGCGTATTTCCT

MQFGELLAAVRKAQANVMLFLEEKEQAALSQANGIKAHLEYRSAEMEKSKQELETMAAISNTVQFLEEYCKFKNT EDITFPSVYIGLKDKLSGIRKVITESTVHLIQLLENYKKKLQEFSKEEEYDIRTQVSAIVQRKYWTSKPEPSTRE QFLQYVHDITFDPDTAHKYLRLQEENRKVTNTTPWEHPYPDLPSRFLHWRQVLSQQSLYLHRYYFEVEIFGAGTY VGLTCKGIDQKGEERSSCISGNNFSWSLQWNGKEFTAWYSDMETPLKAGPFWRLGVYIDFPGGILSFYGVEYDSM TLVHKFACKFSEPVYAAFWLSKKENAIRIVDLGEEPEKPAPSLVGTAP

ACTGCCGGCCTGCGCGGTACTCACTGCCGGCCTCCGCGGTACCCACTGCCGGCCTCCGCGCTACCCGGCCGCAGC $\texttt{GCGCGAGTCAC} \underline{\textbf{ATG}} \texttt{GAAGCTCCTGAGGAGCCCGCGCGCGCGGAGGCCCGGAGGCCCACCCTTGAGGTCCGTG}$ TGGTTCAGCTGATGGTGTTCCTGATCAGCTTCATAAGCTCCGTGTTCTGTGGCCACCTGGGCAAGCTGGAGCTGG ATGCAGTCACGCTGGCAATCGCGGTTATCAATGTCACTGGTGTCTCAGTGGGATTCGGCTTATCTTCTGCCTGTG ACACCCTCATCTCCCAGACGTACGGGAGCCAGAACCTGAAGCACGTGGGCGTGATCCTGCAGCGGAGTGCGCTCG TGTTACAAGTTAAATATTTGCTCAACCAGGGAATTGTACTGCCCCAGATCGTAACTGGAGTTGCAGCCAACCTTG TCAATGCCCTCGCCAACTATCTGTTTCTCCATCAACTGCATCTTGGGGTGATAGGCTCTGCACTGGCAAACTTGA TTTCCCAGTACACCCTGGCTCTACTCCTCTTTCTCTACATCCTCGGGAAAAAACTGCATCAAGCTACATGGGGAG TGGAGTGGTGGGCCTATGAGGTCGGGAGCTTCCTCAGTGGCATCCTCGGCATGGTGGAGCTGGGCGCTCAGTCCA TCGTGTATGAACTGGCCATCATTGTGTACATGGTCCTTGCAGGCTTCAGTGTGGCCTGCCAGTGTCCGGGTAGGAA ACGCTCTGGGTGCTGGAGACATGGAGCAGGCACGGAAGTCCTCTACCGTTTCCCTGCTGATTACAGTGCTCTTTG TTAATCTGGTGGCTCAGGTGGTTCCAATTTATGCTGTTTCCCACCTCTTTGAAGCTCTTGCACGAGTGGTG GTGTTCTGAGGGGGAGTGGAAATCAGAAGGTTGGAGCCATTGTGAATACCATTGGGTACTATGTGGTTGGCCTCC CCATCGGGATCGCGCTGATGTTTGCAACCACACTTGGAGTGATGGGTCTGTGGTCAGGGATCATCATCTGTACAG TCTTTCAAGCTGTGTTTTCTAGGCTTTATTATTCAGCTAAATTGGAAAAAAGCCTGTCAGCAGGCTCAGGTAC ACGCCAATTTGAAAGTAAACAACGTGCCTCGGAGTGGGAATTCTGCTCTCCCTCAGGATCCGCTTCACCCAGGGT GCCAAGAAGAACCTTTGCCGGAACATCCACAGGACGCCGCTAAATTGTCCAGGAAACAGCTGGTGCTGCGGCGAG GGCTTCTGCTCCTGGGGGTCTTCTTAATCTTGCTGGTGGGGATTTTAGTGAGATTCTATGTCAGAATTCAGTGAC GTGGTAGGAAAGAAGTCAGGTCGAGTGATGCTTTTGAGCTTACACACAATTCACAGGCCCACCAGTGACAATTT ACTGTGAGTTAATGTCATTCAGGTGTGCCCATGGATTTTGAGGGCTGGAAATGCAAAGACACATTTTTCTATAAA AAGAAAAAGCAACTAAGGTTAAAAGCTATATTGTGGCCCCAAGACACTGTCTGAAAGATGACATGAGTAGTAATTC ACCACTATCTGAACCAAGCAAGGATCAATGTGCTGACTGCATTGGCCAATGGCTTTGATACTTCTGCTATTTTTT TAGACACAAACCCATAAACTAACTGCTTAAGAATTCATACTGCTTGAATTATGTAAAATATATTTTACAGTATAT GGAAGTCTTGCTCTGTCATGCAGGCTGGAGTGCGGTGGTGCGATCATAGCTCACTGCAGCCTCGAACTCTTGGGC TTCAAGCAATCCTCTGTGTCAGCCACCAGAGTAGCTGAGACTACAGGGGTATGCCACCATGCCCAGCTGGCATT TGTTAATCTTCATTTGAGGTCTAGATCTAGGCACTGTGGACACTGAAAAACAGTTGGGAAATCTTTCGAGCTGTG GAAATCCAAACAAGACTGATAATTCCTGGTAGGGGTGTGTGCGTGACGTACTGCAGCCTCAACCTCCTGGGCTC AAGTGATCCTCCCACCTCAGCCTCCTGAGTAGCTGAGACCACAGGCGTGTGCCACCACGCCTAGCTAATTTTTTA TACCAGGGTCTACCCTTTGTTTCCCAGGCTGGTCTTGAATTCCTGGGATCAAGCAATCCTTCCACCTTGCCCTCC CAAAGTGTTGGGATTATAGGCATGAGCCACCACGACTGGCCAGAGGACAAAATTTTAATAAAGGTCTTAGCTTAA GCAGTAATCCTACTTCATTAAGCCTTCCTGGGGTGCGGTACACACCGTTAATTCAGCAACCCTCAGTACATACTA AGTATGCTCAGTGCTGTGAAAGTGGATTACACCAAATTAAGTCATTCTTATCACACCCAATCAAAAGTCAAGAAG CCAGGGATAAAAGCACCTCAGGCACATAACATTAATCTAGTAATGTAATTCTCTGCACATCCAGCTGGTGAAACT GCGTGCTGTAAGCTGGGACCAGCTTTGTCCATAACTGCTGAGGAACTTGCTGAAGCTCTAGGAATAATTTTGCC TGCCCGGTTGCTCACCAGTTGTAGCTTGCCAGCTCCCAACACCCTTCCTGGTGCCAATAAACTTTCTCAAAGAGC AATACTGACATTTCTTTTGATAAAACCTCCAGCCTTCTCTGTGTTGTTCCGACATACCGAGGACCAACTGGTCTA CATGGATGCCCTGAACATGCAATTCTTTCTTCCAAAATAAAACATTAAATAGAG

MEAPEEPAPVRGGPEATLEVRGSRCLRLSAFREELRALLVLAGPAFLVQLMVFLISFISSVFCGHLGKLELDAVT LAIAVINVTGVSVGFGLSSACDTLISQTYGSQNLKHVGVILQRSALVLLLCCFPCWALFLNTQHILLLFRQDPDV SRLTQTYVTIFIPALPATFLYMLQVKYLLNQGIVLPQIVTGVAANLVNALANYLFLHQLHLGVIGSALANLISQY TLALLLFLYILGKKLHQATWGGWSLECLQDWASFLRLAIPSMLMLCMEWWAYEVGSFLSGILGMVELGAQSIVYE LAIIVYMVLAGFSVAASVRVGNALGAGDMEQARKSSTVSLLITVLFAVAFSVLLLSCKDHVGYIFTTDRDIINLV AQVVPIYAVSHLFEALACTSGGVLRGSGNQKVGAIVNTIGYYVVGLPIGIALMFATTLGVMGLWSGIIICTVFQA VCFLGFIIQLNWKKACQQAQVHANLKVNNVPRSGNSALPQDPLHPGCPENLEGILTNDVGKTGEPQSDQQMRQEE PLPEHPQDGAKLSRKQLVLRRGLLLLGVFLILLVGILVRFYVRIQ

CTCTGAGCAGAACTGACAGCATGAAGGCACTCCTGGCCCTGCCGCTGCTGCTGCTTCTCCCACGCCCCCGTGTG CCCCCAGGTCTCCGGGATCCGAGGAGATGCTCTGGAGAGGTTTTGCCTTCAGCAACCCCTGGACTGTGACGACA TCTATGCCCAGGGCTACCAGTCAGACGGCGTGTACCTCATCTACCCCTCGGGCCCCAGTGTGCCCGTCT TCTGTGACATGACCACCGAGGGCGGGAAGTGGACGGTTTTCCAGAAGAGATTCAATGGCTCAGTAAGTTTCTTCC TCCTGACACTGAAGCAGAAGTATGAGCTGCGAGTGGACTTGGAGGACTTTGAGAACAACACGGCCTATGCCAAGT ACGCTGACTTCTCCCATCTCCCCGAACGCGGTCAGCGCAGAGGAGGATGGCTACACCCTCTTTGTGGCAGGCTTTG AGGATGGCGGGGCAGGTGACTCCCTGTCCTACCACAGTGGCCAGAAGTTCTCTACCTTCGACCGGGACCAGGACC TCTTTGTGCAGAACTGCGCAGCTCTCCTCAGGAGCCTTCTGGTTCCGCAGCTGCCACCTTTGCCAACCTCAATG GCTTCTACCTAGGTGGCTCCCACCTCTCTTATGCCAATGGCATCAACTGGGCCCAGTGGAAGGGCTTCTACTACT ACAAGGGGGCCTTGTGGCTCTCAGCCATGCCACATCCCTGTCACACCCAGGGCATCCATTCCTAAGCCAGACC CGGCTCCCTACACCTGAAGTTACACTGCCAGCAGTTCCCCAGGCCTCTTCCGAGAGGCACATGGTTCTAGCCTG GACCTGGCTGGGCTCCATGAGAATGAGTTGCCTCCACCCTGTCCCAACAGCTGACAGCCAGGAGCCACTCTCCCA GCTGCAGGCCTTTGTGGTCCATCTTGTCCTGCTTCCTCACTGTGGACCCCTGTCTGGGCCACCCTAGTGTGCTAA GCTGAGCAGTGCAGTGTGAACAGGGCCCATGGTGTATTCTAGGCCACAGCCCAGCACTCCTCTGGGCTGCTCTCA AACCATGTCCCATCTTCAGCATCCCTCCCACCAACTTACTCCCCTGTGGTGAGTACCGTGGAACCCCAGCCCACC TCACTATCATACTCAGCTTCCCCTGATGGCCCATCCCAGCCCCTGAAGCTCTATGCCAAGAACACAGCTACCGCA CACCACCTGAAACAGCCACGCCAAGGTAGGCATGCATATGAGGTCTTCCCCATACCCTCTGGGTGTTGAGAGG TTTAGCCACATGAGGGAGCAGAGGACAATCTCTGCAGGGCTGGGAGTGGGGTAGGGACTGAAGGTCTCAATAAACC TTCAGAACCTGAATGAACTGGCTTCATACACAAACATATTTGTTTATCCCCCAAATGTAGGCACCTGGCTCCT $\verb|CCTTGCTCCCTGATGGTGTCCTACCCCGAACTCCAAAAATTACACCTGGAGTCAGGTGCAGAAGGGAACCT|\\$ TGTATTTCACAGGCCTCATTTTGATGGCAAAAAGACAGTGTAATAATA

CGGAGACCCCCGCGCTGGGGACGGGGGGGCCGGGGGGCCTCGGGACCTTGAAAGCCTTGAGGAGGCGCGGGGACA CCATGGCCGAGCCTCTGAAGGAGGAGGACGGCGAGGCCCCCGGGGCCCGTGAAGGCCGAAC CCGCCCACACCGCTGCCTCTGTAGCGGCCAAGAACCTGGCCCTGCTTAAAGCCCGCTCCTTCGATGTGACCTTTG GCCTCACCGGCCAGCAGGTGGCCATCAAAAAGATCCCTAATGCTTTCGATGTGGTGACCAATGCCAAGCGGACCC TCAGGGAGCTGAAGATCCTCAAGCACTTTAAACACGACAACATCATCGCCATCAAGGACATCCTGAGGCCCACCG TGCCCTATGGCGAATTCAAATCTGTCTACGTGGTCCTGGACCTGATGGAAAGCGACCTGCACCAGATCATCCACT CCTCACAGCCCCTCACACTGGAACACGTGCGCTACTTCCTGTACCAACTGCTGCGGGGCCTGAAGTACATGCACT CGGCTCAGGTCATCCACCGTGACCTGAAGCCCTCCAACCTATTGGTGAATGAGAACTGTGAGCTCAAGATTGGTG ACTTTGGTATGGCTCGTGGCCTGTGCACCTCGCCCGCTGAACATCAGTACTTCATGACTGAGTATGTGGCCACGC GCTGGTACCGTGCGCCCGAGCTCATGCTCTCTTTGCATGAGTATACACAGGCTATTGACCTCTGGTCTGTGGGCT GCATCTTTGGTGAGATGCTGGCCCGGCGCCAGCTCTTCCCAGGCAAAAACTATGTACACCAGCTACAGCTCATCA TGATGGTGCTGGGTACCCCATCACCAGCCGTGATTCAGGCTGTGGGGGGCTGAGAGGGTGCGGGCCTATATCCAGA GCTTGCCACCACGCCAGCCTGTGCCCTGGGAGACAGTGTACCCAGGTGCCGACCGCCAGGCCCTATCACTGCTGG GTCGCATGCTGCGTTTTGAGCCCAGCGCTCGCATCTCAGCAGCTGCCGCTTCGCCACCCTTTCCTGGCCAAGT ACCATGATCCTGATGATGAGCCTGACTGTGCCCCGCCCTTTGACTTTGCCTTTGACCGCGAAGCCCTCACTCGGG AGCGCATTAAGGAGGCCATTGTGGCTGAAATTGAGGACTTCCATGCAAGGCGTGAGGGCATCCGCCAACAGATCC GCTTCCAGCCTTCTCTACAGCCTGTGGCTAGTGAGCCTGGCTGTCCAGATGTTGAAATGCCCAGTCCCTGGGCTC CCAGTGGGGACTGTGCCATGGAGTCTCCACCACCAGCCCGCCACCATGCCCCGGCCCTGCACCTGACACCATTG CTAAGGCTGCCCTTAAAGCTGCCCTGCTCAAGTCTTTGAGGAGCCGGCTCAGAGATGGCCCCAGCGCACCCCTGG GCCCCTCCACTGACCCCTTGGCTGGACTAGTGCTCAGTGACAATGACAGAAGCCTGTTGGAACGCTGGACTCGAA TGGCCCGGCCCGCAGCCCTCACCTCTGTGCCGGCCCCTGCCCCAGCGCCAACGCCAACCCCAACCCCAG CTGGCCCTGTACCCCAGCCTGCCCCACCCCCTGGCCCTGCACCCCACTGGCCCTCCTGGGCCCATCC CTGTCCCCGCGCCACCCAGATTGCCACCTCCACCAGCCTCCTGGCTGCCCAGTCACTTGTGCCACCCCTGGGC TGCCTGGCTCCAGCACCCCAGGAGTTTTGCCTTACTTCCCACCTGGCCTGCCGCCCCCAGACGCCGGGGGAGCCC $\tt CTCAGTCTTCCATGTCAGAGTCACCTGATGTCAACCTTGTGACCCAGCAGCTATCTAAGTCACAGGTGGAGGACC$ CCCTGCCCCCTGTGTTCTCAGGCACACCAAAGGGCAGTGGGGGCTGCCTACGGTGTTGGCTTTGACCTGGAGGAAT TCTTAAACCAGTCTTTCGACATGGGCGTGGCTGATGGGCCACAGGATGGCCAGGCAGATTCAGCCTCTCTCAG CCTCCCTGCTTGCTGACTGGCTCGAAGGCCATGGCATGAACCCTGCCGATATTGAGTCCCTGCAGCGTGAGATCC AGATGGACTCCCCAATGCTGCTGACCTGCCTGACCTCCAGGACCCCTGAGGCCCCCAGCCTGTGCCTTGCT GCCACAGTAGACCTAGTTCCAGGATCCATGGGAGCATTCTCAAAGGCTTTAGCCCTGGACCCAGCAGGTGAGGCT $\tt CGGCTTGGATTATTCTGCAGGTTCATCTCAGACCCACCTTTCAGCCTTAAGCAGCCACCTGAGCCACCACCGAGC$ TTATTACACTGTCTTTTTGCCATCAAAATGAGGCCTGTGAAATACAAGGTT

GAGGAGGTGGTGCCCTAGAGGAGATCGAGTACATGATCCAGAAGCTCCCTGAGTGGGCCGCGGATGAGCCC GTGGAGAAGACGCCCCAGACTCAGCAGGACGAGCTCTACATCCACTCGGAGCCACTGGGCGTGGTCCTCGTCATT GGCACCTGGAACTACCCCTTCAACCTCACCATCCAGCCCATGGTGGGCGCCATCGCTGCAGGGAACTCAGTGGTC CTCAAGCCCTCGGAGCTGAGTGAGAACATGGCGAGCCTGCTGGCTACCATCATCCCCCAGTACCTGGACAAGGAT CTGTACCCAGTAATCAATGGGGGTGTCCCTGAGACCACGGAGCTGCTCAAGGAGAGGTTCGACCATATCCTGTAC ACGGGCAGCACGGGGGGGGAAGATCATCATGACGGCTGCCCAAGCACCTGACCCCTGTCACGCTGGAGCTG GGAGGGAAGAGTCCCTGCTACGTGGACAAGAACTGTGACCTGGACGTGGCCTGCCGACGCATCGCCTGGGGGAAA TTCATGAACAGTGGCCAGACCTGCGTGGCCCCTGACTACATCCTCTGTGACCCCTCGATCCAGAACCAAATTGTG GAGAAGCTCAAGAAGTCACTGAAAGAGTTCTACGGGGAAGATGCTAAGAAATCCCGGGACTATGGAAGAATCATT AGTGCCCGGCACTTCCAGAGGGTGATGGGCCTGATTGAGGGCCAGAAGGTGGCTTATGGGGGCACCGGGGATGCC GCCACTCGCTACATAGCCCCCACCATCCTCACGGACGTGGACCCCCAGTCCCCGGTGATGCAAGAGGAGATCTTC GGGCCTGTGCTGCCCATCGTGTGCGTGCGCAGCCTGGAGGAGGCCATCCAGTTCATCAACCAGCGTGAGAAGCCC CTGGCCCTCTACATGTTCTCCAGCAACGACAAGGTGATTAAGAAGATGATTGCAGAGACATCCAGTGGTGGGGTG GCGGCCAACGATGTCATCGTCCACATCACCTTGCACTCTCTGCCCTTCGGGGGGCGTGGGGAACAGCGGCATGGGA GAAGGCCTGAAGGTCAGATACCCCCCGAGCCCGAGCCAAGATGACCCAGCACTGAGGAGGGGGTTGCTCCGCCTGGC CTGGCCATACTGTGTCCCATCGGAGTGCGGACCACCCTCACTGGCTCTCCTGGCCCTGGGAGAATCGCTCCTGCA GCCCCAGCCCAGCCCCACTCCTGTGACCTGTGACCTGTGCACACCCCACTCCCACATGGGCCCAGGCCTCA CCATTCCAAGTCTCCACCCCTTTCTAGACCAATAAAGAGACGAATACAATTTTCTAACTC

5151/6881 FIGURE 4752A

AACTGGAAGGCGCCCGGTCCTTTCTTTGACTGGAGCGGACCCGCCGGACGCAACCGCCTCGCCAGCCGGAGCCAG $\tt CGCGAGCTCGGCACGGTGGACACCCGGTCCGAGGCCGGCAAGCCGGCTGGTGCCCGAGTCGGCCAAGCATGGGCAAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAAGCCAAGCCAGGCCAGGCCAAGCCAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAAGCCAGGCCAGGCCAAGCCAGGCCAGGCCAAGCCAGGCCAGGCCAAGCCAGGCCAGGCCAAGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAAGCCAGGCCAGGCCAGGCCAGGCCAGGCCAAGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAAGCCAGGCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCAGGCCAGGCAGGCCAGGCAGGCCAGGCAGGCCAGGCAGGCCAGGCCAGGCCAGGCAGGCCAGGCCAGGCCAGGCCAGGCA$ ACCACTCAGGACGGCCCGAGGATCCGGAACCAGGGCCTTTACAACAACTAAACGGACAGGCATTCCAGCCCCAC GGGAATTTTCAGTAACTGTCTCAAGAGAGAGGTCTGTGCCACGTGGTCCCTCCAACCCCAGGAAATCAGTGTCCA AAGGTGGAGAAAAGGCTGCGCTTGAGTCCCAAGTTCGGGAACTTTTGGCAGAAGCCAAAGCAAAAGATAGTGAAA TTAACAGGCTTCGAAGTGAACTAAAGAAATACAAAGAGAAAAGGACTCTGAACGCTGAGGGGACTGATGCTTTGG GCCCAAATGTCGATGGAACATCAGTCTCCCCAGGTGACACGGAACCTATGATAAGAGCTCTTGAGGAGAAGAACA ACTCCCCAAATTCAGAAGGGGCAGCAAGTCACACTGGCGACAGCAGCTGCCCAACATCCATAACTCAAGAGTCAA TACGGACATCAGGCTCCTCAAGTAGCGATGTTACCAAAGCTTCTTTGTCGCCAGATGCTTCCGACTTTGAGCACA TTACAGCAGAGACACCCTCAAGGCCCCTGTCCTCCACCAGTAACCCCTTTAAGAGTTCAAAGTGTTCTACTGCTG GGAGTTCCCCAAACAGCGTAAGTGAATTGTCCCTGGCTTCCCTCACAGAGAAGATACAAAAGATGGAAGAAAACC ACCATAGCACTGCAGAAGAACTACAGGCTACTCTACAAGAATTATCAGACCAGCAACAAATGGTACAGGAATTGA CAGCTGAAAATGAGAAGCTGGTGGATGAAAAGACGATTTTAGAGACATCCTTTCATCAGCATCGAGAGAGGGCAG AGCAGCTAAGTCAAGAAAATGAGAAGCTGATGAATCTTTTACAAGAGCGAGTAAAGAATGAAGAGCCCACCACTC AGGAAGGAAAATTATTGAACTGGAGCAGAAGTGCACAGGTATTCTTGAACAGGGCCGCTTTGAAAGAGAGAAGC TACTCAACATTCAGCAGCAGTTGACCTGTAGCTTGCGGAAGGTTGAGGAAGAAAACCAAGGAGCTTTAGAAATGA TTAAACGTCTGAAGGAAGAAAATGAAAAACTGAATGAGTTTCTAGAACTGGAACGGCATAATAATAACATGATGG CCAAAACTTTGGAAGAGTGTAGAGTTACCTTGGAAGGGCTAAAAATGGAGAATGGATCTTTGAAGTCTCATTTGC AGGGTGAGAAGCCAGAAGCCACAGAGGCCAGTGCTGTGGAGCAGACGCCAGAGAGCTGCGAAGTTCAAGAAATGT TGAAAGTAGCCCGAGCAGAAAGATCTACTGGAACTGTCTTGCAATGAGCTCAGACAAGAATTACTAAAGGCAA ${\tt ACGGTGAAATTAAACATGTTTCCAGTCTGCCCAAGGTGGAAAAGGATTATTCATACCTGAAGGAGATATGTG}$ ATCACCAAGCCGAACAGCTGAGCAGAACCAGCCTAAAGCTGCAAGAAAAAGCATCAGAGAGTGATGCAGAGATCA ${\tt AAGACATGAAAGAAACCATATTTGAATTGGAAGATCAGGTGGAACAGCACCGGGCTGTCAAGTTACACAATTATC}$ AACTCATCAGTGAGCTAGAAAGTAGTGTGATCAAGCTGGAGGAACAGAAGTCAGACCTGGAGAGGCAGCTGAAGA TGGCCAATGACATCAAGTGTGAGGCCCAGCAGGAGCTGCGCACCGTGAAGAGGAAACTGCTGGAGGAGGAGGAGA AGAATGCCCGGTTGCAGAAGGAGCTGGGGGATGTGCAGGGCCACGGCAGGGTGGTCACCAGCAGAGCCGCCCCTC CACCTGTGGATGAAGAGCCAGAGTCCTCTGAGGTCGATGCTGGTCGGTGGCCTGGTGTCTGTGTTAGCAGAA CATCTCCAACACCCCCAGAGTCGGCAACCACCGTTAAGTCACTTATCAAGTCATTTGACTTGGGACGCCCAGGTG GAGCTGGACAGAATATTTCTGTCCATAAGACCCCCAGAAGTCCCCTAAGTGGGATACCAGTGAGGACTGCTCCAG GCTTGGACCTTCCTGACCTCCCCTCTCAGATATTCTAAAGGGAAGGACTGAGACCCTGAAGCCAGACCCCCACC TCCGCAAGAGTCCCTCACTAGAGTCACTGAGCAGACCCCCGTCTCTGGGCTTTTGGGGACACAAGACTGCTGAGTG AATACGGTGGTTCCAAGCGCAATGCTCTACTGAAATGGTGCCAGAAGAAGACACAAGGTTATGCGAACATTGACA TCCCCTACCAGGAGCTGAATAGTCAGGAGAAAAAGAGGAATCTCTTGTTGGCATTTGAAGCGGCTGAAAGTGTAG GCATCAAACCCAGCCTGGAACTCAGCGAGATGCTGTACACAGACCGGCCCGACTGGCAGAGTGTGATGCAGTACG TGGCCCAAATCTACAAGTACTTTGAGACGTAACCCTGGAGGGCCTGGGGCAGCCACCATTGCCACCTACTGCAGC CAGACAAAGAACATCTCCAAATCAGTCTTTTGGTTGCTGTTGTTAAAAATATCCCGGCTTTGCCTTTATGAAACC TTTGCCCTTGGCTGGGTGGGTAGCTCGTGGCTGTAATCCCAGCACTTTAGGAAGCCAAGGCAGTAGGATCGTTT

5152/6881 FIGURE 4752B

 ${\tt GAGCCCAGGAGTTCGAGCTGCAGTGAGCTATGAGCATACCACTGCACTCCAGCCTGTGTGAAAGAGCCAGACCCTGTCTC}$

MGNHSGRPEDPEPGAFTTTKRTGIPAPREFSVTVSRERSVPRGPSNPRKSVSSPTSSNTPTPTKHLRTPSTKPKQ ENEGGEKAALESQVRELLAEAKAKDSEINRLRSELKKYKEKTLNAEGTDALGPNVDGTSVSPGDTEPMIRALEE KNKNFQKELSDLEEENRVLKEKLIYLEHSPNSEGAASHTGDSSCPTSITQESSFGSPTGNQMSSDIDEYKKNIHG NALRTSGSSSSDVTKASLSPDASDFEHITAETPSRPLSSTSNPFKSSKCSTAGSSPNSVSELSLASLTEKIQKME ENHHSTAEELQATLQELSDQQQMVQELTAENEKLVDEKTILETSFHQHRERAEQLSQENEKLMNLLQERVKNEEP TTQEGKIIELEQKCTGILEQGRFEREKLLNIQQQLTCSLRKVEEENQGALEMIKRLKEENEKLNEFLELERHNNN MMAKTLEECRVTLEGLKMENGSLKSHLQGEKQKATEASAVEQTAESCEVQEMLKVARAEKDLLELSCNELRQELL KANGEIKHVSSLLAKVEKDYSYLKEICDHQAEQLSRTSLKLQEKASESDAEIKDMKETIFELEDQVEQHRAVKLH NNQLISELESSVIKLEEQKSDLERQLKTLTKQMKEETEEWRRFQADLQTAVVVANDIKCEAQQELRTVKRKLLEE EEKNARLQKELGDVQGHGRVVTSRAAPPPVDEEPESSEVDAAGRWPGVCVSRTSPTPPESATTVKSLIKSFDLGR PGGAGQNISVHKTPRSPLSGIPVRTAPAAAVSPMQRHSTYSSVRPASRGVTQRLDLPDLPLSDILKGRTETLKPD PHLRKSPSLESLSRPPSLGFGDTRLLSASTRAWKPQSKLSVERKDPLAALAREYGGSKRNALLKWCQKKTQGYAN IDITNFSSSWSDGLAFCALLHTYLPAHIPYQELNSQEKKRNLLLAFEAAESVGIKPSLELSEMLYTDRPDWQSVM QYVAQIYKYFET

PCT/US2003/028547

5154/6881 FIGURE 4754

CGCGGTGCCTTTTGAGCTCCTTGTCCACGCTCCGCCCCTGTGGGAACGGCCGCGCTCCCCGCAGCTGGTCATCCG CCGCCTGCCTCCGGGCCTCACCAAGGAGCAGCTGGAGGAGCAGCTGCGCCCGTTGCCAGCACACGACTACTTCGA GTTCTTCGCCGCCGACCTGAGTCTTTATCCTCATCTCTACTCAAGAGCATACATTAATTTTAGGAATCCTGATGA CATCCTTCTTTTTAGAGATCGTTTTGATGGGATATATCTTCCTTGACAGCAAAGATCCAGAATATAAGAAGTTTT TAGAAACCTACTGTGTGGAGGAAGAGAAGGCCAGTGCCAACCCTGAGACTCTGCTGGGGGGAGATGGAGGCGAAGA CAAGAGACTCATTGCTAGAAGAACCACACCTCTTTTGGAATATATAAAAATAGAAAATTAGAAAAGCAGAGAA TTCGAGAAGAGCGAGAAGAACGGAGGAGGAGAGTTAGAAAAGAAACGTTTGCGGGAAGAGAAAAAAAGAA ATTGATACTGGAGGTGGCAAGCAGGAATCCTGTGCCCCCGGTGCAGTCGTAAAAGCCAGGCCCGTGGAAGGCTCG CTGGAGGAGCCCCAGGAGACGTCACACAGCGGCAGTGATAAAGAGCACAGGGATGTGGAGAGATCTCAAGAACAA GAATCTGAAGCACAAAGACACCATGTGGATGATGGCAGGAGGCACAGAGCTCACCACGAGCCTGACCGGCTTTCC AGAGGGAGTGAGGATGAGCAGAGATGGGGGAAAGGACCTGGCCAAGACAGAGGGAAGAAGGGGAGCCAGGACAGC GGGGCTCCGGGGGAGGCCATGGAGAGACTGGGAAGAGCGCAGAGGTGTGACGACAGTCCAGCACCCAGAAAAGAG CGACTGGCAAACAAGGACCGGCCAGCCTTGCAGCTGTATGATCCAGGAGCTCACTTCCGAGCGCTAGAGTGTGGC GCACGCACCTGGCCTCCATGGACGAGCGAGGGCATCCCAGAAACGTGTAAATGACCCCGAGTGTGACTGGGAAGG AGAACTTATTCCTTACCAGGAAACTGGAAGCTAAAACTACAGAGGGTGACATAGAAACACGCAGAAACCATTCTA AAGAAAGTAGTGATCTTGTATTAAATTGAGCAGAATTCTCACAGATTTTACCATTCCTGTTATAAACTAGTATTT GTTGTTTAGCCAAAACAGAAAATGATTTCCACTGGACAGTAGAAAAATATGTGTAAAATAGGGAAGAAAGTTAGT ATTGGATCAGTGTGAGCCCTGAAGCACTTTCAGTGCTGTGAGAACGACATCCACTTTGGGTTTCATTCGTTTGTA AGCAGAGGAGCTGTCAGTCACTCGTGCTTCTCGTTGGCCTCTGAGCCATGGTGTCGAGTGAAGAGTAGTTCTTGT TTGTTACAACCTTTGTGAGTCAGCCATGCCTGCAAAGTGTGCTGTTTTTAGTCCTGGTAGGAATATTTATCAGA GTTCACACTATATAAAACCCAACAGCTTCAACTATTGCCCTTTCAACAGTTTTGCCACTGACCGGATAAAAACGG TTTCAGTCTTTGGATGGATGTGTTTTGTGGTTTGTAACCATTACGGTTTAAACCATGGTTTAAGAATTTGCCCAAA TAACAGAAATTTTGTTCGGGAAGGGATAAACGAGATATAGCATATAGAGCCTGTTTTTGAGTTTTAGATACTTTA TTTGTAAATAACTTAAAATAGCTTTCTGAAACCGTGCATTCTGTAGTTTCTTCCTTTCAGTGAAATTGCTAAATG

GTAAGACACCTTTGCAGTCCTTCCTGGGAATCGCTGAGCAGCACGGGGGCCCCCAAAATGGGACCCTGATCACTC AGACTCTGAGCCAAGCCAACCCCACTGCCATCACTGCAGAAGAATACTTCAACCCCAACTTTGAGCTGGGCAACC GTGATATGGGCCGCCCCATGGAACTGACCACCAAGACACAGAAGTTCAAGGCCAAGCTGTGGCTGTGAGGAGC ${\tt ATCCCCTGTCCCTGTGTGAGCAGGTGGCCCCCATCATTGACCTCATGGCCGTCAGCAATGCGCTTTTTGCCAAGC}$ TCCGGGACTTCATCACCCTGCGTCTGCCTCCTGGCTTCCCAGTTAAGATTGAAATCCCGATCTTCCACATCCTCA ACGCCCGCATCACCTTCGGGAACCTCAACGGCTGCGACGACCGGTGCCATCGGTGCGAGGCAGCCCCAGCAGCG AGACGCCTTCCCCAGGCAGCTCCTCCAGCGTCAGCAGCTCCAGCTCCACGACCTCCTGXCCGCGGCTGCGAG ATCTCCCCAGCGTTGTTCGAGGCCCCGCGCGCTACAGCATGATGGGCGGCCAGCGGGAGGCGGCGACCCGGGAC GACGACGACCTGCTGCAATTCGCCATCCAGCAGAGCCTGCTTGAGGCGGGCAGTGAGTATGACCAGGTCACC ATCTGGGAGGCGCTAACCAACAGCAAGCCAGGCACCCCATGTCCTACGAGGGTCGCCGACAGGACAGGAGC GCCCCGCCCACGCCGCAGCCTGCGCCCCCGGCGTCAGTGCCCAGCCCTCGGCCCAGCTCAGGGCCAGGT TCCGGCGGCCACGTGTTCCGGAGCTACGACGAGCAGCTGCGGCTGGCGATGGAACTGTCGGCGCAGGAGCAGGAG GAGAGGCGGCGCGCGCGCGCAGGAGGAGGAGCAGCTGGAGCGCATCCTGAGGCTCTCACTGACCGAGCAGTAG CGCCCCTGCCGGGACCCTCGCCAGCGCCACGCGCCCAGGGCCAGGACAGACCACAGACCCCGGCCTGC GCGCCTGCAGAGCGGCGGGAGACTGGAGCCACCGCCTCGCGGGTGCAGCAGCACAGCAGGCACGGTTCGGGG AGGGATTCGGCATGGCCGCGGGGTACCTTCCCAGGCCAGGGCCTGGAGGCAACTGGCACGGCCTGGTCCCCCTG CTTTGCTGTATTCTGATTCCCCAACCCGCTCCCCTGGGCTCAGATCTGTCCTGTCCTAGGGCGGAGCCAGGCGGT CCTGAGGGGGAGATGAATCCTTAGAGGAGCGCTGTCCCTATCCCTTGCTCCTTCTGGCCGGTCCGCATTTCTGTT CACTAACCCCACTCCAGGACACTGCCCCTGAAGCCTTTGCATCTCTGCTCTTCACTCCTGGGGGGCAGCTGAGCT CCCCGCGTGTTGTTCCAGACACAAACCAGCACGTCTAGGGCCCAGCCCTCCCCCACCCCGG CATTTCAGCGTCAAGTGCACTTAGCGGGGTACCCGGCTCCCCAGCCCCCACACCCGTCCTGGGTCTCAGGGTGG AGCATATTGGGCTGGGGTAAGCACTAGACCCAAGTAGACTGGACACAAAGGGCTCGCCCAGGGCCCTGGCGCCAC $\tt CCGCCAGGGGCCCACCGCACACCCTTGTCCCGGGCCTGTCTGGGACTGGCCTTCCCGGCTCAGCCAGTG$ GCCAGGGGCACCAGACTGATTCTGAGGCACAAATAAAAGAGGCTTCATACCGG

MTWQRGNRSFVFRGQDTSAVVMEIDHDRRVVYTETLALAGQDRELLLAAAQPTEEQVLSRLTAPVVTTQLDTKNI SFERNKTGILGWRSEKTEMVNGYEAKVYGASNVELITRTREHLSEQHKGKVKGCKTPLQSFLGIAEQHGGPQNG TLITQTLSQANPTAITAEEYFNPNFELGNRDMGRPMELTTKTQKFKAKLWLCEEHPLSLCEQVAPIIDLMAVSNA LFAKLRDFITLRLPPGFPVKIEIPIFHILNARITFGNLNGCDEPVPSVRGSPSSETPSPGSDSSSVSSSSSTTSC RGCEISPALFEAPRGYSMMGGQREAATRDDDDDLLQFAIQQSLLEAGSEYDQVTIWEALTNSKPGTHPMSYEGRR QDRSAPPTPQRQPAPPASVPSPRPSSGPGSGGHVFRSYDEQLRLAMELSAQEQEERRRRARQEEEELERILRLSL TEQ

GCATCCATCAGCAGGGGTGTGCTGGTGTGTGACGAGTGCTGCAGCGTGCACCGGAGCCTGGGACGCCACATCTCC ATTGTCAAGCACCTTCGCCACAGCGCCTGGCCTCCCACGCTGCTGCAGATGGTGCACACGCTTGCCAGCAACGGG GACAAAGTCCACCCCATCAAGTCAGAGTTCATCAGGGCCAAGTACCAGATGCTGGCATTTGTGCACAAGCTTCCC GAGACATGTCTGCGCCTGCTCTCCCTGGGTGCCCAGGCCAACTTCTTCCACCCAGAGAAGGGCACCACACCTCTG CACGTGGCTGCCAAGGCAGGACAGACACTGCAGGCCGAGCTGCTTGTAGTGTATGGGGCTGACCCTGGCTCCCCT TGCCAATATGAGCTCACTGACCGGCTGGCCTTCTACCTCTGTGGACGCAAGCCGGATCACAAGAATGGGCATTAC ATCATCCCACAGATGGCTGACAGATCTCGGCAAAAGTGCATGTCTCAGAGCCTTGACTTATCCGAATTGGCCAAA GCTGCTAAGAAGAAGCTGCAGGCGCTCAGCAACCGGCTTTTTGAGGAACTCGCCATGGACGTGTATGACGAGGTG GATCGAAGAGAAAATGATGCAGTGTGGCTGGCTACCCAAAACCACAGCACTCTGGTGACAGAGCGCAGTGCCGTG CCCTTCCTGCCTGTTAACCCGGAATACTCAGCCACGCGGAATCAGGGGGCGACAAAAGCTGGCCCGCTTTAATGCC CGAGAGTTTGCCACCTTGATCATCGACATTCTCAACAACCTCGAGCTGTCTCTGCGGAGCCAGAGTGACCTCGAC GACCAACACGACTACGACAGCGTGGCCTCTGACGAGGACACAGACCAGGAGCCCCTGCGCAGCACCGGCGCCACT CGGAGCAACCGGGCCCGGAGCATGGACTCCTCGGACTTGTCTGACGGGGCTGTGACGCTGCAGGAGTACCTGGAG CTGAAGAAGGCCCTGGCTACATCGGAGGCAAAGGTGCAGCAGCTCATGAAGGTCAACAGTAGCCTGAGCGACGAG CTCCGGAGGCTGCAGCGAGAGATCCACAAGCTGCAGGCGGAGAACCTGCAGCTCCGGCAGCCTCCAGGGCCGGTG CCCACACCTCCACTCCCCAGTGAACGGGCGGAACACACCCCATGGCGCCAGGCGGGAGCACACCCCAGGGAT CGCCAGGCCTTTTCCATGTATGAACCTGGCTCTGCCCTGAAGCCCTTTGGGGGCCCCCCTGGGGACGAGCTCACT ACGCGGCTGCAGCCTTTCCACAGCACTGAGCTAGAGGACGACGCCATCTATTCAGTGCACGTCCCTGCTGGCCTT GAGGGAAGCCGCCACACGAGCAAGCTTTCCCGCCACGGCAGTGGAGCCGACAGTGACTATGAGAACACGCAAAGT GGGGACCCACTGCTGGGGCTGGAAGGGAAGAGGTTTCTAGAGCTGGGCAAAGAGGAAGACTTCCACCCAGAGCTG GAAAGCCTGGATGGAGACCTAGATCCTGGGCTTCCCAGCACAGAGGATGTCATCTTGAAGACAGAGCAGGTCACC AAGAACATTCAGGAACTGTTGCGGGCAGCCCAGGAGTTCAAGCATGACAGCTTCGTGCCCTGCTCAGAGAAGATC CATTTGGCTGTGACCGAGATGGCCTCCTCTTCCCAAAGAGGCCAGCCCTGGAGCCAGTGCGGAGCTCACTGCGG CTGCTCAACGCCAGCGCCTACCGGCTGCAGAGTGAGTGCCGGAAGACAGTGCCCCCAGAGCCCGGCGCCCCAGTG GACTTCCAGCTGCTGACTCAGCAGGTGATCCAGTGCGCCTATGACATCGCCAAGGCTGCCAAGCAGCTGGTCACC ATCACCACCCGAGAGAAGAAGCAGTGACCTCTCTCCCCACACCCTCACCTGCACCCTAGGACCTCACTGGCCATA GGAGCTGGGCCACTCCAGACATTAATCCCCACCCCAACAGAGCCACTGGCACAAGTGCCCTTAGTGCTGCCACAC TCCCTGGCAGCCAGGTGCCCTGGTGCCCACCCCTGTCGAGCCCCTAAGGATGGGGAGGTTGGGGGGGCAGGAGCT TCTGTCCCCCACATTCCATGCACCTCCCCTCTGTATATAGCATCTCCCCCCTCCTAGTGAGCAGGGGCCTGCAAG GCATCACTCCCAGCCCCTCGCCTTCTAGGGCACCCTCAGCAAAGGGGCAGGTGGGGACACTCCAAGTGGGGCAGC TCTCCGTACATGCGCCCCACCCCCATGAGCCAGTTCAGCCCTACTGGGGGGCTGAGCGGGGGGCATCCCCTCCTTTG TACATAGTCTCCATGGATGTCCCTGCCCTGTAGCCACCAGCCCCTTGCTGCTCTCCCTTTAATGCCATATGGCCC TCTTTCTTCTCCCCACCCCTTAATTTTAACTTTGTGGTAACTGAGTGCCCCCGCGTGCCTGCGTGTTGAGTGTG TGGGCGGCAGTGCCGTTCCGGAGGCCTGGTCCATCTGGAGTTTTGAGGGGTGAGGGGACCAGAGCAGTGGGACCA GCATGGGGATCAGCTTCCCCTCCCCACCTGGAGCCAGGGACTGTCCGGGTAGCCAGTTTTGGTCCTGCCAGCTGC CTCCCTGATCCCTCCCCACTCTCGCCCCTTCTCTATGAACTTAAATCAAAAACCACTTCCCTCCATCTCCTCCTG CTCCTGCGTGGAGGGGGAATGTGTGCTGGCTAGGGTGGAGGACTGAGCACCTGAGCCTGGGGCTGCCTCCCGGG TACCTGCACCTGCTGGTCCCACCCTCTGGAGGCCTGGGAACCTGGCTGCAGCCTGGGAAGGCTGGAGAGGCAG ACGGTGGGACCCACCAGCTCTCCCCCATCCCGCTTCTTCCCTGGGGGCCCAGGCCCTACCTGTGTGGTGGTGGT GGGCTGTCAAGACGTGTCATGTACATTTGTATCAAAAATAAAGAAGTGACCATG

AGCCCTCGCGGGGGCAAGGCGGCGACCGAGGCGCGTGGGTCTGGGAAGGCGCGCGGATTTGGCCCCTCTTCTCAC ATCAGCGGGTCCAGGCCCAACCGACAGACTATGGGGGCTCCGGCAACCAGGCGCTGCGTGGAGTGGCTGCGGGC CTCTACTTCCTCAGCCACATCCCCATCACCCTGTTCATGGACCTGCAGGCGGTGCTGCCGCGCGAGCTCTACCCA GTCGAGTTTAGAAACCTGCTGAAGTGGTATGCTAAGGAGTTCAAAGACCCACTGCTACAGGAGCCCCCAGCCTGG GGAAGCTGCAAGTGGATTCGAACTCCTGCAATCATCTACTCTGTTCACACCATGACAACCTTAATTCCGATACTC TCCACATTTCTGTTTGAGGATTTCTCCAAAGCCAGTGGTTTCAAGGGACAAAGACCTGAGACTTTGCATGAACGG TTAACCCTTGTGTCTATGCCCCCTACTTACTCATCCCATTCATACTTTTAATTTTCATGTTGCGGAGCCCC TACTACAAGTATGAAGAGAAAAAAAAAAAATGAAGGAAACAACCACTGGCCCAGGGTAGAGATGCCTACAGG GTGGTTGCTTGTTGGATACAATACAAGGAACACTGCTCAGAACCCACGTCTTCAGCAGCATTTGAAACACTGGCA GACAGTCTCACTCTGTTGCCCAGGCTGGAGTAAAGGGCAGTGGCATGATCTCGGCTCACTGCAACCTCCGCCTCC TGGGCTCAAGCCATCTTCCTTAGCCTCCCAAGTAGCTAGAACTACAGGTGTGTACCAACACGTATGGCTAATTTG TTTTGTTTTTTTGTGTGTGGAGACAGGGTTTTGCCATGTTGCCCAGGTTGGTCTCGAACGCCTAGGCTCAAG TGATCTGCCCACCTCAGTCTCCCTAAGTGCTGGGATTACAGACGTGAACCACTGGGCCCAGCCCAAACCTTCACC TTCTAAGGGCACTGGGATGAACAGACCGATCGGCTTGAGGGTGGGCAAAGGGGTGTGGGCTAGGTTATAAGGAAG TGGTACCAAATAACTGTGTGCCTGAGTTCCACCGCAAGATTACTAAAAGCAGGACCAGACCAGAAACTGCTAAAG AACATGGCCTGTTTGACATGTTCATGAGTCACCTGACCCACAGCATATATGCTTATGACTAAACCCTCCACTCCT GATTCTCAAGAGTGTATCACCTGTCAGCAAAATGAATAGTGGGATATTTTGGGCCATTTTAAATGTGAAATTTTG CCTCTTTAATGTTAATTCAAAACTATATCAATGTTTTCTTGTTCCCACCTCTAACCCAAGGAAAAAAGAGAAAAAC ATACTATGCAAAGGAAGTTTAAACTTAAGTTTTCCTTAAGGGTCAGCCCAACAATGACTTTCAGTCAAATGGATT AATTAGTTTATTTCTAAATCTTAGTCTTCCACATTTCTAGAGGCCACCTGACACAAGTCCCTGTATCTGAAGTCT AGCATCTCAAGGCTGATCTGGAAGTGTGCTAGTATGCTCCCTAGTGGATAACTTAATCTTTTAATACAGTTCCGT CATTCCCATCTTGTTTTCAGAAGAGAAGGTGGCTACAGCCAGGCATAACATATCCACTGTGTGCATAGAGGGTCT CTTCACGTTGATGCTTGGCATTCCATCAGCTTTCTCTAAGTCTTTGCTCAAGTTCAACCTTAAAATGATGTTAGA CAACAGGTCCCAGTCAGTTCCCTCTATTTTCACCCATTTTGCTCACAAGCCATATTGGCCCGATTAGTGGTACTG TCTGACTCACGTGTGTGATCCAAATAAAGGTAGCTGCTG

MKRKEKKNEGNNHWPRVEMPTGWLLVGYNTRNTAQNPRLQQHLKHWQQCTRARWCQEPCQTLTFFHFFFFKTVS LCCPGWSKGQWHDLGSLQPPPPGLKPSSLASQVARTTGVYQHVWLICFVFFVCVETGFCHVAQVGLERLGSSDLP TSVSLSAGITDVNHWAQPKPSPSKGTGMNRPIGLRVGKGVWARL

;

GCCACCCAGCTGAGAGGGGGGGCGCCCCCGGGGACGCACTGAGATTATGAGGCTCTGGCCTCCACTGGCCACTCA $\verb|CTCGTGACCCTTTCCACCACGGCGGAGCCTTCCAAGCCTACCTCCTGCCGTGTGGTGATCTACCTGCAGCGGGAG|\\$ ATGTCGGGGGACACCTGCCTGTGCCCAGCCTCAGGGGCCCAAGCCCAAGCTCAGTGGCTTCAAGGGAGGAGGGTTG GGCAACAAGTATGTCCAGCTCAACGTGGGCGGCTCTCTGTACTACACCACTGTGCGGGCCCTGACCCGCCACGAC ACCATGCTCAAGGCCATGTTCAGTGGGCGCATGGAGGTGCTGACCGACAAAGAAGGCTGGATCCTCATAGACCGT ATCAAGGAATTGATGGCTGAAGCAAAGTATTACCTCATCCAGGGGCTGGTGAATATGTGCCAGAGTGCCCTGCAG GACAAGAAGGACTCCTACCAGCCTGTGTGCAACATCCCCATCATCACATCCCTAAAGGAGGAGGAGCGGCTCATC GAATCCTCCACCAAGCCCGTGGTGAAGCTGCTGTACAACAGAAGCAACAACAAGTATTCCTACACCAGCAACTCT GACGACCACCTGCTGAAAAACATCGAGCTGTTTGACAAGCTCTCCCTGCGCTTCAACGGCCGCGTGCTCTTCATC AAGGATGTCATTGGTGACGAGATCTGCTGCTGGTCCTTTTATGGCCAGGGCCGTAAGCTGGCAGAGGTGTGCTGT ACCTCCATCGTGTATGCCACGGAGAAGAAGCAGACCAAGGTGGAATTCCCAGAGGCCCGAATCTATGAGGAGACA CTCAACGTCCTACTCTATGAGACTCCCCGCGTCCCCGACAACTCCTTGTTGGAGGCCACAAGCCGTAGCCGCAGC CAGGCTTCCCCCAGTGAAGATGAGGAGACCTTTGAACTGCGGGACCGTGTCCGCCGCATCCACGTCAAGCGCTAC AGCACTTACGATGACCGGCAGCTCGGCCACCAGTCTACCCATCGCGACTGACCAGACCCTCAGGGAGTCAGGGCA CGGGAGGCCCTATCTCCCATCCTGTGGAACCCGCCCCATTGGCCACCCCATGCTGCTGCTGCCTGGGTCTCTGCT CTAGCACCCAGAGGCATGACAGGCCCTGCTCAGAGGTCAGAGGGTCTGGGCAGAGGAGGGACCACATTCCCCTGC CTTGCCCCTGAGCACTTCTGGAGACTGCGTCCTGTCCTATCTGCTCACCATCACCCTTCCTGCCCGACGGAGCTG CTTCTGCTCCCTGGGGCATATGGACTGACCCACCTCCTGCTGAGAACCTTCCCCTAGGCCCTGTGCAGAAGGCTA CTGCCCCTTAGGCCTCAGCTGGGGGAAAGGCAGTTCTGGTGCTGTAGAGGCCCTGGTGCAGAAAGTGGGACGTCT TTTTTCCTAAGGTGTTTAAGCACAGGCTTGATAAGTTTGGTTTTTAAAAAATAATCTAGGAAATGAATAATTCTA AATCTAGTAATGAGGAAACTGAGCATTTCTTTTGCCCTCCAGGGTGCCAAGACCCTACATATGACAGAACCCTTG GCCCTTCTCCATGCCTGTGGGATCTGTTTCTTTAAAGCACTTTGTACTGTTATTCAGGAGGTTGATAATCTCCTT AAAAAAAAACATCCGACAGAGCAGCTCTGGCTTTGCAGCCTGGCCAGCAGCTCAGAGTGCACCGAGGAGGGAAGG ATGGCTAAGCTGGGACCGGCAGTCCTCACAGGGTGCCTGTGAGAAAGGACATTTTACCCCCACATCATAGTCACA TCACTGACTCCTAGGTCTAGCACGACTGCTCTTTGTGATTCTCTTGAGTACCCTTGGCTTCCAGCCATGCTGTCC TCACATACGGTAAAGCCAAAGAGCTGTCACATGGGCCAGAAACATGAGCCACGGCAGGAAGACCGTGGAGCCCGT GGGCACTGCATGGTGTTGGCTGGCATGCCCATCAGCTGAGGACAGCAAACTCCCAGCAGCCCCTACAGAGGTGGC TGCCCAGTGGTGTCTCTGAGCGCGGGATGACAGGAGCAACCGAAGCACCCTGAAGGCCTTCACTCCTTGTTGGGT AACTCAGCCATGGAGATGCCAAGCACTAGCCAGGAGGTGAGTTCCTCTTTAGGGCTTTGGTTTTCATTCCTTTTT TGCCAGCCTAACAAAGCAACGTAGCCACGTATAGTACCCACTTTCTGCTCTTTGGAGAACACACGGTTATCAAG TTCATCTCTTTGACTACTCTTATGATAGCTGATGCCACAGAGCCTATGGGCAAATGCCAGACCCAGGGTTAGAC ACAAGGACCTGAAGTGACATGACGGCGGGACAGGGGAAATGTGACTTTCTAATTAGGCATTTTATGTTAGTCACA GTCTTGAATGTATAAACAGCACTAAGACTCTCAGGTCAGGTACCTTGGTGATCAGCTACTAGTTCTTCCAGCCCT CATTGAGGTAACAAGATAAAGACAAATCCACTTCTTTGGCCAAATTCAGGCTTTGGCTTTATGACTTTCCCACAG AGACTGGAATGCGTCAGCCTGAGACCACTGGCCTATTTTCTCAGCTGCCCTCTTGAGGTCCTTTAACACTCAAAT TCCCAGCTCCCCACTGAGGTGTTGTGATGCTTGCCTTTTGACCTCCCCATCCCCTTTAGTCCCTGCTTACTACTT TGACATTCACATCCTCAGTGTCTCAGTCTTTTTTGCCGAGAAAGCACAGTAGTCTGGGACTGGGCATTTATCTTC TCTGACTGAAAATCTCTCCTTGGTCTTAAGGAAAATACTAACATTGAACTCACTGACATGATCTTAGCTTCTTTA ATCAGACTTTGTGACTTAAAAGTTTGGGGGTTTTCTTTGAAAGTTTCCAGCCCTATTCAGAAAGCAACTCTTGGC GTTTCTGAGAAACCTGGCAGCCTGCTGTTAACAACACAGGCCAGTATTGGGTTTTATTGAATTTGGTATGTGACC AAGGTCGGCCTAAAGGATGGCGCAGGTCCTGGGCAGGAAAGAATTTTTCCTTTATCACATAACTGTAATATTTGG TTGCTCAGCATAAGTGATGGAAGCAAACACTAATTTCTAATAAAATTGTGTTAAACTC

CCTGGCCGTGGCCAGCCGCTGGTCGCTGACTGGGGCCCGGTGGCCAAGGCCGCTCTGTGCGGCGGC CGGAGCTGGAGCCTTCTCGCCAGCGTCGACCACGACGACGCGGAGGCACCTCTCGTCCCGAAACCGACCAGAGGG CAAAGTGTTGGAGACAGTTGGTGTTTTGAGGTGCCAAAACAGAATGGAAAATATGAGACCGGGCAGCTTTTCCT TCATAGCATTTTTGGCTACCGAGGTGTCGTCCTGTTTCCCTGGCAGGCCAGACTGTATGACCGGGATGTGGCTTC TGCAGCTCCAGAAAAAGCAGAGAACCCTGCTGGCCATGGCTCCAAGGAGGTGAAAGGCAAAACTCACACTTACTA TAACCATGATGACAGTCGGGCCCTCTATGCCATCCCAGGCTTGGACTATGTCAGCCATGAAGACATCCTCCCCTA CACCTCCACTGATCAGGTTCCCATCCAACATGAACTCTTTGAAAGATTTCTTCTGTATGACCAGACAAAAGCACC TCGGGAAACAACTGAGAACATACGTGTCACTGTCATCCCCTTCTACATGGGCATGAGGGAAGCCCAGAATTCCCA CGTGTACTGGTGGCGCTACTGTATCCGTTTGGAGAACCTTGACAGTGATGTGGTACAGCTCCGGGAGCGGCACTG GAGGATATTCAGTCTCTCTGGCACCTTGGAGACAGTGCGAGGCCGAGGGGTAGTGGGCAGGGAACCAGTGTTATC CAAGGAGCAGCCTGCGTTCCAGTATAGCAGCCACGTCTCACTGCAGGCTTCCAGTGGGCACATGTGGGGCACGTT CCGCTTTGAAAGACCTGATGGCTCCCACTTTGATGTTCGGATTCCTCCCTTCTCCCTGGAAAGCAATAAAGATGA GAAGACACCACCTCAGGCCTTCACTGG**TAG**GCCAGCTGAGGCCCCAAGTGCCCAGGCTTGGTCACCGGGAAGAA TGGGGTTCTTTTTGTGGGGAGGGTGGTATAACTTTTCTTCAGAAGACCCATGTGGGACACCTCCAAGGCTGGCC TCCTCATAAGCCCTGCCTACACCATGTTCCAGTAAACCTCTCCACCAAGGAACTGTGTTCAGCTGCCACAGGCCT GGAGGAGTTTCCTGGCCTGTCACGTGAGGTTTGATCAGTAAACCAGTGCACGCTTGGCCACCCTTGCCATTTCTG AGAGGAGGGAGGCAAGCCAGTCGGGTTTCCTGGAGCAATGGGTGTGCCAGCCCTCAGCATGACTCTGCCAAGCAT CCAGACCACAAATGCAGGAATTTGGCTGAGGAGCAGCTTTAGGTATGGATTGATGACTAAGTCAAGCTACTTCCT GAGCTTCTCTCAGATTTCCAAGAGCCAGAGATGAATTGTGCTGCATCTTGCCCCAATTCTTAGGATTTCTTTTCC TCCGCCACTGCAGTGATTGTTAGAGGTAGTTTTCTTGAATTAATATTAAATCACAGTTCCAGCCCTGTAAAAAAA

MAACTARRALAVGSRWWSRSLTGARWPRPLCAAAGAGAFSPASTTTTRRHLSSRNRPEGKVLETVGVFEVPKQNG
KYETGQLFLHSIFGYRGVVLFPWQARLYDRDVASAAPEKAENPAGHGSKEVKGKTHTYYQVLIDARDCPHISQRS
QTEAVTFLANHDDSRALYAIPGLDYVSHEDILPYTSTDQVPIQHELFERFLLYDQTKAPPFVARETLRAWQEKNH
PWLELSDVHRETTENIRVTVIPFYMGMREAQNSHVYWWRYCIRLENLDSDVVQLRERHWRIFSLSGTLETVRGRG
VVGREPVLSKEQPAFQYSSHVSLQASSGHMWGTFRFERPDGSHFDVRIPPFSLESNKDEKTPPSGLHW

PCT/US2003/028547

5163/6881 FIGURE 4763

CAATCATGGATCAATAGCTATGTTTGGAGAAGGAATTTGTGGCTGCTCCAGCTACTGGGCATTTTGTCTGGTCCA GTTCATGTAATCTCCCAACACCCCATGAAGCAAGGCTTTGTTAATCCTATTTTACTGAAAATGAACTAAGACTCA GAGAGATAAAGCTGTTGCCCAATGAGCCTTCTTTCTGCCCTCCAGATCCACGGTGCTAATTCCCCTTCCGATGAC CTAATGATTCTGAGCTTGGCAAAGGTCTTATCTCCCAGCTCGCCCAGGCCCAGTGTTCCAGGAATGTGACCTTTG CTGCAGCAGCCGCTGGAGGGGCAGAGGGGATGGGCTGGAGGTTGAGCAAACAGAGCAGCAGAAAAAGGCAGTTCC GACCAGAGCCCAGCTTGCCAGGCACTGAGCTAGAAGCCCTGCCATCGCCATCGCCATGCCCTTGAGACCCCTTCTCATACTGGC CCTGCTGGCATGGGTTGCTCTGGCTGACCAAGAGTCATGCAAGGGCCGCTGCACTGAGGGCTTCAACGTGGACAA GAAGTGCCAGTGTGACGAGCTCTGCTCTTACTACCAGAGCTGCTGCACAGACTATACGGCTGAGTGCAAGCCCCA AGTGACTCGCGGGGATGTCTCACTATGCCGGAGGATGAGTACACGGTCTATGACGATGGCGAGGAGAAAAACAA TGCCACTGTCCATGAACAGGTGGGGGGCCCCTCCCTGACCTCTGACCTCCAGGCCCAGTCCAAAGGGAATCCTGA GCAGACACCTGTTCTGAAACCTGAGGAAGAGGCCCCTGCGCCTGAGGTGGGCGCCTCTAAGCCTGAGGGGATAGA CTCAAGGCCTGAGACCCTTCATCCAGGGAGACCTCAGCCCCCAGCAGAGGAGGAGCTGTGCAGTGGGAAGCCCTT CGACGCCTTCACCGACCTCAAGAACGGTTCCCTCTTTGCCTTCCGAGGGCAGTACTGCTATGAACTGGACGAAAA GGCAGTGAGGCCTGGGTACCCCAAGCTCATCCGAGATGTCTGGGGCATCGAGGGCCCCATCGATGCCGCCTTCAC $\tt CCCTGATTACCCCCGAAATATCTCTGACGGCTTCGATGGCATCCCGGACAACGTGGATGCAGCCTTGGCCCTCCC$ TGCCCATAGCTACAGTGGCCGGGAGCGGGTCTACTTCTTCAAGGGGAAACAGTACTGGGAGTACCAGTTCCAGCA CCAGCCCAGTCAGGAGGAGTGTGAAGGCAGCTCCCTGTCGGCTGTGTTTGAACACTTTGCCATGATGCAGCGGGA CAGCTGGGAGGACATCTTCGAGCTTCTCTTCTGGGGCAGAACCTCTGCTGGTACCAGACAGCCCCAGTTCATTAG CCGCCCTCCTTGGCCAAGAAACAAAGGTTTAGGCATCGCAACCGCAAAGGCTACCGTTCACAACGAGGCCACAG CCGTGGCCGCAACCAGAACTCCCGCCGGCCATCCCGCGCCATGTGGCTGTCCTTGTTCTCCAGTGAGGAGAACCAA $\tt CCCACGCTCCATCGCTCAGTACTGGCTGGCCCAGCTCCTGGCCATCTG{\color{red}{\textbf{TAG}}}{\color{blue}{\textbf{GAGTCAGAGCCCACATGGCC}}}$ GGGCCCTCTGTAGCTCCCTCCCATCTCCTTCCCCCAGCCCAATAAAGGTCCCTTAGCCCCGAGTTTAAA

MAPLRPLLILALLAWVALADQESCKGRCTEGFNVDKKCQCDELCSYYQSCCTDYTAECKPQVTRGDVFTMPEDEY
TVYDDGEEKNNATVHEQVGGPSLTSDLQAQSKGNPEQTPVLKPEEEAPAPEVGASKPEGIDSRPETLHPGRPQPP
AEEELCSGKPFDAFTDLKNGSLFAFRGQYCYELDEKAVRPGYPKLIRDVWGIEGPIDAAFTRINCQGKTYLFKGS
QYWRFEDGVLDPDYPRNISDGFDGIPDNVDAALALPAHSYSGRERVYFFKGKQYWEYQFQHQPSQEECEGSSLSA
VFEHFAMMQRDSWEDIFELLFWGRTSAGTRQPQFISRDWHGVPGQVDAAMAGRIYISGMAPRPSLAKKQRFRHRN
RKGYRSQRGHSRGRNQNSRRPSRAMWLSLFSSEESNLGANNYDDYRMDWLVPATCEPIQSVFFFSGDKYYRVNLR
TRRVDTVDPPYPRSIAQYWLGCPAPGHL

5165/6881 FIGURE 4765A

CGAGTGAAAAAACTGAGCCTCAGCCTGTCGCCCTCAGCCGGGGAAAACCATCTATGAGAACTCCTCTCCGT GAACTTACCCTGCAGCCCGGTGCCCTCACCAACTCTGGAAAAAGATCCCCCGCTTGCTCCTCGCTGACCCCATCA CTGTGCAAGCTGGGGCTGCAGGAAGGCAGCAACAACTCATCTCCAGTGGATTTTGTAAATAACAAGAGGACAGAC TTATCTTCAGAACATTTCAGTCATTCCTCAAAGTGGCTAGAAACTTGTCAGCATGAATCAGATGAGCAGCCTCTA GATCCAATTCCCCAAATTAGCTCTACTCCTAAAACGTCTGAGGAAGCAGTAGACCCACTGGGCAATTATATGGTT AAAACCATCGTCCTTGTACCATCTCCACTGGGGCAGCAACAAGACATGATATTTGAGGCCCCGTTTAGATACCATG GCAGAGACAAACAGCATATCTTTAAATGGACCTTTGAGAACAGACGATCTGGTGAGAGAGGAGGTGGCACCCTGC ATGGGAGACAGGTTTTCAGAAGTTGCTGCTGTATCTGAGAAACCTATCTTTCAGGAATCTCCGTCCCATCTCTTA GAGGAGTCTCCACCAAATCCCTGTTCTGAACAACTACATTGCTCCAAGGAAAGCCTGAGCAGTAGAACTGAGGCT GTGCGTGAGGACTTAGTACCTTCTGAAAGTAACGCCTTCTTGCCTTCTCTGTTCTCTGGCTTTCCCCTTCAACT GCCTTGGCAGCAGATTTCCGTGTCAATCATGTGGACCCAGAGGAGGAAATTGTAGAGCATGGAGCTATGGAGGAA AGAGAAATGAGGTTTCCCACACATCCTAAGGAGTCTGAAACAGAAGATCAAGCACTTGTCTCAAGTGTGGAAGAT ATTCTGTCCACATGCCTGACACCAAATCTAGTAGAAATGGAATCCCAAGAAGCTCCAGGCCCAGCAGTAGAAGAT TCCGTCATGCTGGAAAATCTCCGCCAAAGCTTATCCCTTCCCTCGATGCTTCGGGATGCTGCAATTGGCACTACC CCTTTCTCTACTTGCTCGGTGGGGACTTGGTTTACTCCTTCAGCACCACAGGAAAAGAGTACAAACACATCCCAG GCCTTGTCTCGACATGACTTGGAAGATAACCTGCTGAGCTCTCTTGTCATTCTGGAGGTTCTCTCCCGCCAGCTT CGGGACTGGAAGAGCCAGCTGGCTGTCCCTCACCCAGAAACCCAGGACAGTAGCACACAGACTGACACATCTCAC AGTGGGATAACTAATAAACTTCAGCATCTTAAGGAGAGCCATGAGATGGGACAGGCCCTACAGCAGGCCAGAAAT GTCATGCAATCATGGGTGCTTATCTCTAAAGAGCTGATATCCTTGCTTCACCTATCCCTGTTGCATTTAGAAGAA GATAAGACTACTGTGAGTCAGGAGTCTCGGCGTGCAGAAACATTGGTCTGTTGCTGTTTTGATTTGCTGAAGAAA CTAGCATCCATGCGGGAATTCAGAGGCCTTCTGAAGGATGCCCAGACCCAACTGGTAGGGCTTCATGCCAAGCAA GAAGAGCTGGTTCAGCAGACAGTGAGTCTTACTTCTACCTTGCAACAAGACTGGAGGTCCATGCAACTGGATTAT ACAACATGGACAGCTTTGCTGAGTCGGTCCCGACAACTCACAGAGAAACTCACAGTCAAGAGCCAGCAAGCCCTG CAGGAACGTGATGTGGCAATTGAGGAAAAGCAGGAGGTTTCTAGGGTGCTGGAACAAGTCTCTGCCCAGTTAGAG GAGTGCAAAGGCCAAACAGAACAACTGGAGTTGGAAAACAGTCGTCTAGCAACAGATCTCCGGGCTCAGTTGCAG ATTCTGGCCAACATGGACAGCCAGCTAAAAGAGCTACAGAGTCAGCATACCCATTGTGCCCAGGACCTGGCTATG CTAAAACACATGCAGGCAGAACTGCAGCAACAAGCTGTCCTGGCCAAAGAGGTGCGGGACCTGAAAGAGACC TTGGAGTTTGCAGACCAGGAGAATCAGGTTGCTCACCTGGAGCTGGGTCAGGTTGAGTGTCAATTGAAAACCACA CTGGAAGTGCTCCGGGAGCGCAGCTTGCAGTGTGAGAACCTCAAGGACACTGTAGAGAACCTAACGGCTAAACTG GCCAGCACCATAGCAGATAACCAGGAGCAAGATCTGGAGAAAACACGGCAGTACTCTCAAAAGCTAGGGCTGCTG ACTGAGCAACTACAGAGCCTGACTCTCTTTCTACAGACAAAACTAAAGGAGAAGACTGAACAAGAGACCCTTCTG CTGAGTACAGCCTGTCCTCCCACCCAGGAACACCCTCTGCCTAATGACAGGACCTTCCTGGGAAGCATCTTGACA GCATCAATGGTTTCCCTTCAGCCCGCAGAGACCCCAGGCATGGAGGAGACCTGGCAGAAATGAGTATTATGACT ACTGAGCTTCAGAGTCTTTGTTCCCTGCTACAAGAGTCTAAAGAAGAAGCCATCAGGACTCTGCAGCGAAAAATT TGTGAGCTGCAAGCTAGGCTGCAGGCCCAGGAAGAACAGCATCAGGAAGTCCAGAAGGCAAAAGAAGCAGACATA GAGAAGCTGAACCAGGCCTTGTGCTTGCGCTACAAGAATGAAAAGGAGCTCCAGGAAGTGATACAGCAGCAGAAT TCACTTCGGCGTGCGGAGACAGAGACCAAAGTGCTCCAGGAGGCCCTGGCAGGCCAGCTGGACTCCAACTGCCAG CCTATGGCCACCAATTGGATCCAGGAGAAAGTGTGGCTCTCTCAGGAGGTGGACAAACTGAGAGTGATGTTCCTG GAGATGAAAAATGAGAAGGAAAAACTCATGATCAAGTTCCAGAGCCATAGAAATATCCTAGAGGAGAACCTTCGG CGCTCTGACAAGGAGTTAGAAAAACTAGATGACATTGTTCAGCATATTTATAAGACCCTGCTCTTATTCCAGAG

5166/6881 FIGURE 4765B

 ${\tt GTGGTGAGGGGATGCAAAGAACTACAGGGATTGCTGGAATTTCTGAGCTAAGAAACTGAAAGCCAGAATCTGCTT}\\ {\tt CACCTCTTTTTACCTGCAATACCCCCTTACCCCAATACCAAGACCAACTGGCATAGAGCCAACTGAGATAAATGC}\\ {\tt TATTTAAATAAAGTGTATTTAATG}\\$

 ${\tt MWRVKKLSLSPSPQTGKPSMRTPLRELTLQPGALTNSGKRSPACSSLTPSLCKLGLQEGSNNSSPVDFVNNKR}$ ${\tt TDLSSEHFSHSSKWLETCQHESDEQPLDPIPQISSTPKTSEEAVDPLGNYMVKTIVLVPSPLGQQQDMIFEARLD}$ TMAETNSISLNGPLRTDDLVREEVAPCMGDRFSEVAAVSEKPIFQESPSHLLEESPPNPCSEQLHCSKESLSSRT EAVREDLVPSESNAFLPSSVLWLSPSTALAADFRVNHVDPEEEIVEHGAMEEREMRFPTHPKESETEDOALVSSV EDILSTCLTPNLVEMESQEAPGPAVEDVGRILGSDTESWMSPLAWLEKGVNTSVMLENLRQSLSLPSMLRDAAIG TTPFSTCSVGTWFTPSAPQEKSTNTSQTGLVGTKHSTSETEOLLCGRPPDLTALSRHDLEDNLLSSLVILEVLSR QLRDWKSQLAVPHPETQDSSTQTDTSHSGITNKLQHLKESHEMGQALQQARNVMQSWVLISKELISLLHLSLLHL EEDKTTVSQESRRAETLVCCCFDLLKKLRAKLQSLKAEREEARHREEMALRGKDAAEIVLEAFCAHASQRISQLE QDLASMREFRGLLKDAQTQLVGLHAKQEELVQQTVSLTSTLQQDWRSMQLDYTTWTALLSRSRQLTEKLTVKSQQ ALQERDVAIEEKQEVSRVLEQVSAQLEECKGQTEQLELENSRLATDLRAQLQILANMDSQLKELQSQHTHCAQDL AMKDELLCQLTQSNEEQAAQWQKEEMALKHMQAELQQQQAVLAKEVRDLKETLEFADQENQVAHLELGQVECQLK TTLEVLRERSLQCENLKDTVENLTAKLASTIADNQEQDLEKTRQYSQKLGLLTEQLQSLTLFLQTKLKEKTEQET LLLSTACPPTQEHPLPNDRTFLGSILTAVADEEPESTPVPLLGSDKSAFTRVASMVSLQPAETPGMEESLAEMSI MTTELQSLCSLLQESKEEAIRTLQRKICELQARLQAQEEQHQEVQKAKEADIEKLNQALCLRYKNEKELQEVIQO QNEKILEQIDKSGELISLREEVTHLTRSLRRAETETKVLQEALAGQLDSNCQPMATNWIQEKVWLSQEVDKLRVM FLEMKNEKEKLMIKFQSHRNILEENLRRSDKELEKLDDIVQHIYKTLLSIPEVVRGCKELQGLLEFLS

CCTTTGCCTTTGAGGCTCTGTGGCTGTGGGGCTGAGTGGCATCATGGCGGCTCAGAAAGATCTCTGGGACGCCAT TGTGATTGGGGCGGGGATCCAGGGCTGCTTCACTGCATACCACCTGGCCAAACACAGGAAGAGGATCCTCCTGCT GGAGCAGTTCTTTCTACCACACTCCCGAGGAAGCTCCCATGGACAAAGCCGGATAATCCGAAAGGCGTACCTGGA AGACTTTTACACCCGGATGATGCATGAGTGCTATCAGATATGGGCCCAGCTGGAGCACGAGGCTGGAACCCAATT GCACAGGCAGACTGGATTACTGCTGCTGGGAATGAAAGAGAATCAAGAATTAAAGACAATCCAGGCCAATCTGTC GAGGCAGAGGGTAGAACACCAGTGTCTTTCATCTGAGGAACTGAAGCAACGTTTCCCAAATATTCGGTTGCCCAG GGGAGAAGTGGGGCTCTTGGACAATTCCGGAGGAGTTATCTATGCATATAAGGCCCTCAGAGCCCTGCAGGATGC AATTCGACAGCTAGGAGGCATAGTGCGTGACGGAGAAGGTGGTGGAGATAAACCCAGGGCTACTGGTCACGGT TCCCCTGGGCATTGAGATGCCTCTCCAGACCCTGCGGATCAACGTGTGTTACTGGCGAGAGATGGTTCCTGGGAG CTATGGTGTCCCAGGCCTTTCCGTGCTTCCTGTGGCTGGGCTTGTGTCCCCACCACATCTACGGACTGCCCAC AGGAGAGTACCCAGGGCTGATGAAGGTCAGCTATCACCACGGCAACCACGCAGACCCTGAGGAGCGGGACTGCCC CACAGCACGCACAGACATCGGAGACGTCCAGATCCTGAGCAGCTTTGTCAGAGATCACTTACCTGATCTGAAGCC CGAGCCTGCTGTCATTGAGAGCTGCATGTACACGAATACCCCTGATGAGCAGTTCATTCTCGATCGCCACCCAAA GTATGACAACATTGTCATTGGTGCTGGATTCTCTGGGCACGGGTTCAAGCTGGCCCCTGTGGTGGGGAAGATCCT GTATGAATTAAGCATGAAATTAACACCATCTTATGACTTGGCACCTTTTCGAATCAGCCGTTTCCCAAGCCTGGG CAAAGCCCACCTTTGACCTCTGGCCAGAAGCCTCCCTTCTGTGCACAGGAGCCAGTTTCACAGATGGAGAAGATG TCTCAGATGAAGGGAGTGTCCCTGAGATATCATCCTTTTCTTCTGCCTCGCCTGAATCCCCCATAAACACCAGAT GATTGAGTCTACCTTCTTTCCTTGGCCCGCTCCCTTTTTCTTCTGCCTCACTTGAATCCCCCGTAAACACCAGAC GATTGAGTCTACCTTCTTTTCTTGGCCACCTCCCCATTCACAACTACTTTCTCGCTCCCAGAAGGTTGATCAGAT ATTCTACAATCACAGAGTAGCAAGGACGTTTGAGATGGGTATATCAGTAAGAAGAGGGCACAAGAACTGGCTCTG GAGACCAAAGCAGTTGTTAAAAATTCTCTTTGCTGGGGGCCGGGTGTGGTGGCTCACACCTGTAATCTCGGCACT TTGGGGGGCTGAGACAGGCGGATCACCTGAGGCCAGGAATTCAAGACCAGCCTGGCCAACATGGTGAAACCCTAT CTCCACTAAAAATACAAAATTAGCTGGGTGTGGTGGCGCATGCCTGTAATCCCAGCTACTTGGGAGACTGAGGCA AGAGAATCACTTGAACCCGGGAGGTGGAGGTGGCAGTGAGCCGAGATTGCGCCATTGCACCTCCAGCCTGGGCAAA TGGATTTGACTAAATCTGCCCCGAGGAGGGTGAACAAGGTGATCTCAGAGATCACTACTGCTCTTGGAGTTCCTT GTTGAACAAATAAATAACTGCCCTGC

TCAGTGAAGGAGTCTTCAAGTGCCCTGAGGACCAGCTTCCTCTGGACTATGCCAAGATCTACCCAGACCCGGAGC TGGAAGTACAAGTATTGGGCCTGCCTATCCGCTGCATCCACAGTGAGGGGGCTGCCGCTGGAGTGGGCCACTAC GTCATCTACAGGGCCACCTGAATACCTGCAGCTTCAATGTCATTCCCTGCCCTAATCGCTGCCCCATGAAGCTGA GCCGCCGTGATCTACCTGCACACTTGCAGCATGACTGCCCCAAGCGGCGCCTCAAGTGCGAGTTTTGTGGCTGTG ACTTCAGTGGGGAGGCCTATGAGAGCCATGAGGGTATGTGCCCCCAGGAGAGTGTCTACTGTGAGAATAAGTGTG GTGCCCGCATGATGCGGCGGCTGCTGGCCCAGCATGCCACCTCTGAGTGCCCCAAGCGCACTCAGCCCTGCACCT $\verb|CCAACCAATGTGGTGTGGCACTGTGGGAGGACCTGCCAGGCCATCTGAAGGACAGCTGTAACACCGCCC|\\$ TGGTGCTCTGCCCATTCAAAGACTCCGGCTGCAAGCACAGGTGCCCTAAGCTGGCAATGGCACGGCATGTGGAGG AGAGTGTGAAGCCACATCTGGCCATGATGTGTGCCCTGGTGAGCCGGCAACGGCAGGAGCTGCAGGAGCTTCGGC GAGAGCTGGAGGAGCTATCAGTGGGCAGTGATGGCGTGCTCATCTGGAAGATTGGCAGCTATGGACGGCGGCTAC AGGAGGCCAAGGCCAACCTTGAGTGCTTCAGCCCAGCCTTCTACACACATAAGTATGGTTACAAGCTGC AGGTGTCTGCATTCCTCAATGGCAATGGCAGTGGTGAGGGCACACCTCTCACTGTACATTCGTGTGCTGCCTG GTGCCTTTGACAATCTCCTTGAGTGGCCCTTTGCCCGCCGTGTCACCTTCTCCCTGCTGGATCAGAGCGACCCTG GGCTGGCTAAACCACAGCACGTCACTGAGACCTTCCACCCCGACCCAAACTGGAAGAATTTCCAGAAGCCAGGCA ${\tt CGTGGCGGGGCTCCCTGGATGAGATTCTCTGGGCTTTGGTTATCCCAAGTTCATCTCCCACCAGGACATTCGAA}$ AGCGAAACTATGTGCGGGATGATGCAGTCTTCATCCGTGCTGCTGTTGAACTGCCCCGGAAGATCCTCAGCTGAG CGGACCCCGTCAGCTGCTTCTGCTGCCTAGGTTCTGTTACCCCATCCTCCCCCCAGCCACCCCCAGGT GCCTCCAATTGGTGCTTCAGCCCTGGGCCCCTGTGGGGAACAGGTCTTGGGGTCATGAAGGGCTGGAAACAAGTGA CCCCAGGGCCTGTCTCCCTTCTTGGGTAGGGCAGACATGCCTTGGTGCCGGTCACACTCTACACGGACTGAGGTG

MPGFDYKFLEKPKRRLLCPLCGKPMREPVQVSTCGHRFCDTCLQEFLSEGVFKCPEDQLPLDYAKIYPDPELEVQ VLGLPIRCIHSEEGCRWSGPLRHLQGHLNTCSFNVIPCPNRCPMKLSRRDLPAHLQHDCPKRRLKCEFCGCDFSG EAYESHEGMCPQESVYCENKCGARMMRRLLAQHATSECPKRTQPCTYCXLXXSSSLTPSRATSTSAQGCLLPAPT NVVWALWLGRTCQAI

GAGACTCGCCCGGCTCAACCCCGACGTCCGCGCCCGGCCTGTTGGCCATCGCGGCCTGGGCCTGGGCTCC TGCCCCACTTGCCGCCAGGGCGCCGCAGCCGCACCTGCGGAAGAACACGCTACTGCAGGACCTGGCCGAC AAGTACCGCCGCGCGCACGCGAGATACAGGCGGGCTCCGACCCTGCCCACTGCCCCTGCCCGGGCTCCAGTTCC CTCTCCAGCGCGCCGCGAGGCCCCGGCGCCCCGGAACTGCAGCGGGTGGCAGTAGAGAAGAGCATCACAGAA GTTGCTCAGGAGCTGACAGAGCTGGTGGAACATCTTGTAGACATTGTCAGAAGCCTGCAGAATCAGAGGCCCCTA TCAGAATCTGGACCAGACGAACTGAGCATCCTGGGCAAGGAGACTCCTGGAAGCCCCGTCTTCCTCCTCAT TTAACTTGAAGAGCCTTTCCTGCAGCCTGGAGGTGTCCAAGGATTCCCGTACAGTGACTGTGTCTCACCGCCCAC ATTACTGGGAAGTGGACACTAGGAATTGCAGCCACTGGGCAGTTGGGGTGGCTTCCTGGGAGATGAGCCGCGACC AGGTCCTGGGAAGGACTATGGACTCTTGTTGTGTGGAATGGAAGGGGACTAGCCAGCTCTCTGCATGGCACATGG TCAAGGAAACTGTCCTTGGCTCAGACAGACCTGGGGTGGTGGGCATCTGGCTGAACCTTGAGGAGGGAAAGCTTG CCTTCTATTCAGTGGACAATCAGGAGAAGCTTCTGTATGAGTGTACCATCTCTGCCTCCTCTCTTTGTACCCTG CCTTCTGGCTGTATGGCTTACATCCTGGAAATTACCTGATAATAAAGCAAGTAAAGGTGTAAGGTTTCCTAAGGG TTTAGAAAAATTACGATAGAGATGGGATCTCACTAGGTTGCCCAGGCTGGTGTCGAATTCCTGGTCTCAAGCAGT CCTCCCACCTCAGCCTCCCAAGGTGCTGGGATTACAGGTGTGAGCCACCACCCTGGCCAAGAATACCACTTTTG AAGTTAATCCTTTTGTGTGATACAGGATGAACTTGGGATGTTTGAACCCTGGACATTCCAAATAAAGAATAGGCC ${\tt CCTGCCTGGCTCCTGGGAGATAACCTCTAAGCCATTAGAATATCTTGCCTGATAAGAGTGTTTTTGTTTACCTGT}$ GGGCCTTGGGCCATGCAGTATCAGCTTGACCTTGCAAGGTCAAGCTGAGGAGACTAAGTTAGCCATGTGGGCAGT TACTCTGTGCACACATCATTGTAGCCACACATCATTGCTGGGAGAATTAAGCATTATCCTGAAGACTCTGCCAGG AGAGGATAATTGGAAGTTCTCTTGGACCTTACCTTATGTGCCTTTCTTCATTGCTGATTTTAATCTGTATCCTTT

MAGLGLGSAVPVWLAEDDLGCIICQGLLDWPATLPCGHSFCRHCLEALWGARDARRWACPTCRQGAAQQPHLRKN TLLQDLADKYRRAAREIQAGSDPAHCPCPGSSSLSSAAARPRRPELQRVAVEKSITEVAQELTELVEHLVDIVR SLQNQRPLSESGPDNELSILGKENSWKPRLPPHAHCLTRATLHSGELLGLLSGPSIQPLT

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AGGTGGAAAAACTTGTGAAATATTTGGATCCCAACGACCTGGGGAGAATCAACTTCAAGGACTTTTGCCGGGGGG CGCCAGAGATCCCAGACTGCGTGGAGCAGGGCAGCGAGGTCACAGGCCCCACCTTTGCTGATGGCGAGCTCATCC $\verb|CCAGGGAACCCGGCTTTTTTCCCGAGGACGAGGAGGAGGCTATGACGCTGGCGCCACCTGAGGGCCCCCAGGAGT|\\$ TGTACACAGACAGCCCCATGGAGAGCACTCAGAGCCTGGAGGGGTCTGTCGGGAGTCCTGCCGAGAAGGACGGG CACACTCCACCACCTCGCTCATCAGCAATGAGGAGCAGTTTGAAGACTATGGGGAGGGTGACGATGTGGACTGTG $\verb|CCCCAGCAGCCCTTGCCCCGATGATGAGACCAGGACCAACGTCTACTCGGACCTGGGGTCTTCGGTGTCTTCCA|\\$ GTGCGGGGCAGACGCCTAGGAAAATGCGGCACGTGTACAACAGCGAATTGCTAGATGTTTACTGCTCTCAATGCT GCAAGAAAATCAACCTGCTCAATGACTTGGAAGCCCGACTGAAAAACCTGAAGGCCCAACAGCCCCAACCGAAAGA TCTCCAGCACGGCCTTTGGACGGCAGCTCATGCACAGCAGCAACTTCAGCAGCAGCAATGGCAGCACCGAAGACC TGTTCCGGGACAGCATTGACTCTTGCGACAATGACATCACAGAGAAGGTAAGCTTCCTGGAAAAGAAGGTGACAG AGCTGGAGAATGACAGCCTGACCAATGGGGACCTGAAGAGCAAGCTGAAGCAAGAACACACAGCTGGTGCACA GGGTGCATGAGCTGGAGGAGATGGTGAAGGATCAGGAGACCACGGCCGAGCAGGCTCTGGAGGAGGAGGCGCGGC GCCACCGCGAGGCCTACGGCAAGCTGGAGAGGGAGAAGGCTACCGAGGTGGAGCTGCTCAATGCCAGGGTGCAGC AGTTGGAGGAAGAAATACAGAGCTTAGAACAACAGTGACTCGGCTCAAGTCTCAAACAGAGAAACTGGATGAGG AGCGGCAGCGCATGTCTGACCGTCTGGAGGACACCAGCCTGCGGCTCAAAGATGAGATGGACCTGTACAAGCGCA TGATGGACAAGCTGCGACAGAACCGCCTTGAGTTCCAGAAGGAGCGGGAGGCGACGCAGGAGCTCATCGAGGACT CTGGCCTAGGCGAGTTCAATGCCAGGGCCCGCGAGGTGGAGCTCGAGCACGAGGTCAAGCGGCTCAAGCAGGAGA ATTATAAGCTGCGGGATCAGAACGACGACTTGAATGGGCAGATTTTGAGCCTCAGCCTCTACGAAGCAAAAAACC TCTTTGCTGCCCAGACTAAAGCCCAGTCTCTGGCTGCGGAGATAGACACCGCCTCGCGCGATGAGCTAATGGAAG CCCTGAAGGAGCAGGAGGATCAACTTCCGGCTGAGGCAGTACATGGACAAGATTATCCTCGCCATCCTGGACC ACAATCCCTCCATCCTCGAGATCAAACAC<u>TAA</u>GGCACGGGGCTGGCTGCAGAGCAGCCTTAGGACCCTGGGACCA AGGGCAGACCCTGCCCAAGGATGCAGGCCTAAGCCGGGCCTCACACTCTAAAATGTCTCTCTGGCCACCA GCATCCACACGGTTAGCCGTGCATGCACTTTGTGGCCCCTTTGCAAGGGGCAGAGGGTACTGGAAGTGGGAGGAG GCAAGGTCTGCTATCAGGAGTTACTGTAAAAACAAGAACTGGAAGCTCGTGTTTCCGGTACTGGGTAAAATGATT CTACCTCTGGGGATAAGGATTCACATTCGCTCTAGTACGATGGGCTCTTTCACCCCACTCCTAGTCCCCTTGGGA GTGGGAGCAAAATTGTGATCTTTCCTAGGAGTTTGAATGCCCCATATTTGTGTCCTCGCCAGCTCTTTGGCCACC TTTCAAGCCCCAGTGTTCAAGCTCAGAGAGGATGAAGGGGCATCTGGAGGGTCCATGAGATGGGGCCCTCACCAA TGTTTCAGTTTTAAGACAATGAAGCAGCATTCACTGCGTCATTGTAACATGAAGGGATAAAAATGAAGGAGAAGG AGGGTTTGGGATGGGTGTCTAAGGCAGGAGTTGACATCGGGCAACCAAAGAAATGAGTTTTGGGGAGGAACACAA CTGTCTTCATTCTCCACGCAGCCTGGTGATGGCAGGCCTGGGTTTGGATTTCAGAATCCTAGCTCCGGGCTCCAC TCGTGTGGCAGCAAGACTGCTTCGTTCCAGCGTTTAGAAACACCCTGTATTTGATTCTCAGCCAGGGGAGCACT CGCTGCACTGGTGGGAGGCGGTTGGGAAAGTTGCAGGAAAACCTTAGTCTTCCATCCTTCTGACCCATGGTGGAA ATTCACACCATGGATTTTTAATGGATCTTTGTTCTAGGCAGCTGGGAATAGACATGGTACTTACCTTAGAGTTTT GGCGGTGGAGGGGGAGTTGCAGAAAGAGAGGGCAGTGAGGGTGAGGAGAGGGGATCTGGGGACTTGGGTGTGACA CCTGCTTGACAGAGGCAGGCCTGTGGCCAGGACCAACCTTCAATTCCATTCCAATCAGCCTTTGCATTTGTTGGA TCTCGTGGCTTCTTTTTAATCTTTTGTTGGGGATTAGTTTCATGCTGCACATAATGGGGTTGCACTGGTCTGACC CAGGACTTTGGAGCCACCCACACTGGGAAGACTAGGCTAGGCAGTCGGTCTTCTAGGAGTTTCTCAGCCCCTTAG GACGCGGTCTCCTTGGGCTCCCCAAGGGTTCTGCGAAGAGGCAGTGGAAGAAGGCATGAGGAGAGGGTCTCTT GAGAATTTGCCAATAGGAAGGAGTGGCCACGGCTGAAAGGAACAAGACAGATCCTGACATAGCTTTGGCCTGGGT